



Planning Commission Staff Report

Meeting Date: August 4, 2020

Agenda item: 9D

STAFF REPORT CASE NUMBER: WMPA20-0005 (Public Service & Facilities Element)

BRIEF SUMMARY OF REQUEST: To amend the Public Services Element a component of the Washoe County Master Plan for the purpose of bringing the Public Services Element into conformance with the 2019 Truckee Meadows Regional Plan

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APPLICANT: Washoe County

CASE DESCRIPTION

Master Plan Amendment Case Number WMPA20-0005 (Public Services & Facilities Element) – Hearing and discussion for possible action to initiate and to amend the Public Services and Facilities Element a component of the Washoe County Master Plan for the purpose of bringing the Public Services and Facilities Element into conformance with the 2019 Truckee Meadows Regional Plan. The proposed amendments include providing new language referencing the List of Facilities & Services Standards; new language recognizing the promotion of facilities and services in line with the priority hierarchy for development; identifying that water and wastewater infrastructure will not be extended from the TMSA to the RA, except for the management of reclaimed water as a method to effectively manage reclaimed water from wastewater treatment facilities; new language acknowledging use of the Regional Water Management Plan; and addressing the Regional Plan requirements for Regional Utility Corridor and Sites. The TMSA is the area within the county where municipal services such as water and sanitary sewer are available for development to use, thus allowing denser development. The RA, by contrast, as outside of the TMSA and is the area within the county where municipal services such as water and sanitary sewer are not available for development to use, thus allowing less dense development.

- ♦ Location: County wide
- ♦ Dev Code: Authorized in Article 820, Master Plan Amendment
- ♦ Comm. District: All Commissioners

STAFF RECOMMENDATION

INITIATE

INITIATE AND RECOMMEND APPROVAL

DO NOT
INITIATE

POSSIBLE MOTION

I move that, after giving reasoned consideration to the information contained in the staff report and information received during the public hearing, the Washoe County Planning Commission initiate and adopt the resolution contained at Exhibit A to this staff report to initiate and amend the Master Plan as set forth in Master Plan Amendment Case Number WMPA20-0005 having made the following five findings in accordance with Washoe County Code Section 110.820.15(d). I further move to certify the resolution and the proposed Master Plan Amendments in WMPA20-0005 as set forth in this staff report for submission to the Washoe County Board of County Commissioners and authorize the chair to sign the resolution on behalf of the Planning Commission.

(Motions with Findings on Page 6)

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Explanation of a Master Plan Amendment

The purpose of a master plan amendment application is to provide a method of review for requests to amend the master plan.

The Master Plan guides growth and development in the unincorporated areas of Washoe County, and consists of three volumes. By establishing goals and implementing those goals through policies and action programs, the Master Plan addresses issues and concerns both countywide and within each community. Master plan amendments ensure that the Master Plan remains timely, dynamic, and responsive to community values. The Washoe County Master Plan can be accessed on the Washoe County website at <http://www.washoecounty.us>, select departments, planning and building, then planning documents (Master Plan, Regulatory Zone) - or it may be obtained at the front desk of the Washoe County Planning and Building Division.

Volume One of the master plan outlines six countywide priorities through the year 2025. These priorities are known as elements and each is summarized below. The Land Use and Transportation Element, in particular, plays a vital role in the analysis of a master plan amendment.

- **Population Element**. Projections of population, housing characteristics, trends in employment, and income and land use information for the County.
- **Conservation Element**. Information, policies and action programs, and maps necessary for protection and utilization of cultural and scenic, land, water, air and other resources.
- **Land Use and Transportation Element**. Information, policies and action programs, and maps defining the County's vision for development and related transportation facilities needed for the forecasted growth, and protection and utilization of resources.
- **Public Services and Facilities Element**. Information, policies and action programs, and maps for provision of necessary services and facilities (i.e. water, sewer, general government and public safety facilities, libraries, parks, etc.) to serve the land use and transportation system envisioned by the County.
- **Housing Element**. Information, policies and action programs, and maps necessary to provide guidance to the County in addressing present and future housing needs.
- **Open Space and Natural Resource Management Plan Element**. Information, policies and action programs, and maps providing the necessary framework for the management of natural resources and open spaces.

Volume Two of the Master Plan consists of 13 Area Plans, which provide detailed policies and action programs for local communities in unincorporated Washoe County relating to conservation, land use and transportation, public services and facilities information, and maps.

Volume Three of the Master Plan houses Specific Plans, Joint Plans and Community Plans that have been adopted by the Washoe County Board of County Commissioners. These plans provide specific guiding principles for various districts throughout unincorporated Washoe County.

Requests to amend the Master Plan may affect text and/or maps within one of the six Elements, one of the 13 Area Plans, or one of the Specific Plans, Joint Plans or Community Plans. Master plan amendments require a change to the Master Plan and are processed in accordance with Washoe County Chapter 110 (Development Code), Article 820, *Amendment of Master Plan*.

When making a recommendation to the Washoe County Board of County Commissioners to adopt a master plan amendment, the Planning Commission must make at least three of the five findings as set forth in Washoe County Code (WCC) Section 110.820.15(d). If a military installation is required to be noticed, then an additional finding of fact pursuant to WCC Section 110.820.15(d)(6) is required. If there are findings relating to master plan amendments contained

in the Area Plan in which the subject property is located, then the Planning Commission must also make all of those findings. A recommendation to adopt the master plan amendment requires an affirmative vote of at least 2/3's of the Planning Commission's total membership.

Background

The 2019 Truckee Meadows Regional Plan (TMRP) was adopted by the Truckee Meadows Regional Planning Agency (TMRPA) on October 10, 2019 and includes unincorporated Washoe County, except area in the Tahoe basin and federally-recognized tribal lands. The purpose of the plan is to "focus on the coordination of master planning in Washoe County as it relates to population, regional form and land use pattern, public facilities and service provision, natural resources, and intergovernmental coordination."

After the adoption of the 2019 TMRP the TMRPA staff identified specific policies that were not included in the Elements of the Washoe County Master Plan. Washoe County staff was asked to update the Washoe County Master Plan Elements to support the 2019 TMRP policies. Washoe County staff is beginning a major update of the Washoe County Master Plan, however certain policies were identified as needing to be updated in the short term. Washoe County staff was asked to update the master plan now to address those specific policies (see Exhibit B). The policies were in the various master plan elements and this amendment is only updating the Public Services and Facilities Element. Many of the policies in the Public Services and Facilities Element are outdated and will be updated during the upcoming Washoe County Master Plan update which is intended to be more comprehensive.

Analysis

The amendment is requesting to update the Washoe County Master Plan Public Services and Facilities Element to address five short term policies identified by the TMRP staff. The 2019 TMRP policies that were identified to address are:

1. Referencing the List of Services Standard Table 3.2 Facilities and Service Standards;
2. Prioritize the hierarchy promotion of facilities and services;
3. Identify water and wastewater infrastructure;
4. Acknowledging the Regional Water Management Plan; and
5. Address the requirements for regional utility corridors and sites.

Updating and amending the Public Service and Facilities Element will bring the element into conformance with the regional plan. This amendment will ensure that any future master plan amendments or projects of regional significance will meet these regional policies. The five policies are listed in the Introduction section of the element and are:

PSF.0.1 Comply with all applicable 2019 Truckee Meadows Regional Plan policies.

- PSF.0.1.1 The 2019 Truckee Meadows Regional Plan List of Facilities and Services Standard table will be reviewed for any master plan amendments and for project of regional significance request.
- PSF.0.1.2 Master plan amendments and project of regional significance request will prioritize the hierarchy for resources, service and infrastructure as addressed by the 2019 Truckee Meadows Regional Plan policies PF2 and RF2 and as outlined in NRS 278.0274.
- PSF.0.1.3 The 2019 Truckee Meadows Regional Plan policies for regional utility corridors must be acknowledged, promoted, and followed for any master plan amendments and for project of regional significance.
- PSF.0.1.4 The 2019 Truckee Meadows Regional Plan policies for the Regional Water Management Plan (RWMP) will be reviewed and included for any master plan amendments and for projects of regional significance.

- PSF.0.1.5 The 2019 Truckee Meadows Regional Plan policies for water and wastewater will be reviewed and will not be extended from the TMSA to the RA, except for the management of reclaimed water as a method to effectively manage reclaimed water from wastewater treatment facilities.

Findings

WCC Section 110.820.15(d) requires the Planning Commission to make at least three of the six findings of fact to recommend approval of the amendments to the Washoe County Board of County Commissioners. The following findings and staff comments on each finding are presented for the Planning Commission's consideration:

1. **Consistency with Master Plan.** The proposed amendment is in substantial compliance with the policies and action programs of the Master Plan.

Staff Comment: The proposed amendment does not conflict with the policies and action programs of the Master Plan and will bring the master plan into compliance with the 2019 Truckee Meadows Regional Plan as detailed in this staff report.

2. **Compatible Land Uses.** The proposed amendment will provide for land uses compatible with (existing or planned) adjacent land uses, and will not adversely impact the public health, safety or welfare.

Staff Comment: There is no change proposed to the land use and this amendment will not adversely impact the public health, safety or welfare.

3. **Response to Change Conditions.** The proposed amendment responds to changed conditions or further studies that have occurred since the plan was adopted by the Board of County Commissioners, and the requested amendment represents a more desirable utilization of land.

Staff Comment: The proposed amendment is responding to the new 2019 Truckee Meadows Regional Plan, as detailed in this staff report.

4. **Availability of Facilities.** There are or are planned to be adequate transportation, recreation, utility, and other facilities to accommodate the uses and densities permitted by the proposed Master Plan designation.

Staff Comment: There is no change proposed changes to facilities and will not adversely impact transportation, recreation, utility, and other facilities.

5. **Desired Pattern of Growth.** The proposed amendment will promote the desired pattern for the orderly physical growth of the County and guides development of the County based on the projected population growth with the least amount of natural resource impairment and the efficient expenditure of funds for public services.

Staff Comment: The proposed changes will align growth with the 2019 Truckee Meadows Regional Plan policies and Tier hierarchy to help with the orderly growth in the County.

6. **Effect on a Military Installation.** The proposed amendment will not affect the location, purpose and mission of the military installation.

Staff Comment: The proposed amendment this amendment will not affect the location, purpose and mission of the military installation.

Public Notice

Notice for master plan amendments must be given in accordance with the provisions of Nevada Revised Statutes 278.210(1), as amended and WCC Section 110.820.23. Notice was provided in a newspaper of general circulation within Washoe County at least 10 days before the public hearing date. A legal ad was placed with the Reno Gazette Journal for July 24, 2020.

A public workshop was held through Zoom on July 22, 2020 for this application. However, the staff report was due before the meeting was held. Staff can provide information about the meeting at the Planning Commission meeting on August 4, 2020.

Recommendation

It is recommended that the Washoe County Planning Commission initiate and adopt the resolution contained at Exhibit A of this staff report to amend the Master Plan as set forth in Master Plan Amendment Case Number WMPA20-0005. It is further recommended that the Planning Commission forward the Master Plan amendment to the Washoe County Board of County Commissioners for their consideration of adoption. The following motion is provided for your consideration:

Motion

I move that, after giving reasoned consideration to the information contained in the staff report and information received during the public hearing, the Washoe County Planning Commission initiate the proposed amendment and adopt the resolution contained at Exhibit A of this staff report to amend the Master Plan as set forth in Master Plan Amendment Case Number WMPA20-0005 having made the following five findings in accordance with Washoe County Code Section 110.820.15(d). I further move to certify the resolution and the proposed Master Plan Amendments in WMPA20-0005 as set forth in this staff report for submission to the Washoe County Board of County Commissioners and authorize the chair to sign the resolution on behalf of the Planning Commission.

1. Consistency with Master Plan. The proposed amendment is in substantial compliance with the policies and action programs of the Master Plan.
2. Compatible Land Uses. The proposed amendment will provide for land uses compatible with (existing or planned) adjacent land uses, and will not adversely impact the public health, safety or welfare.
3. Response to Change Conditions. The proposed amendment responds to changed conditions or further studies that have occurred since the plan was adopted by the Board of County Commissioners, and the requested amendment represents a more desirable utilization of land.
4. Availability of Facilities. There are or are planned to be adequate transportation, recreation, utility, and other facilities to accommodate the uses and densities permitted by the proposed Master Plan designation.
5. Desired Pattern of Growth. The proposed amendment will promote the desired pattern for the orderly physical growth of the County and guides development of the County based on the projected population growth with the least amount of natural resource impairment and the efficient expenditure of funds for public services.

Appeal Process

Planning Commission action will be effective 10 calendar days after the written decision is filed with the Secretary to the Planning Commission and mailed to the original applicant, unless the action is appealed to the Washoe County Board of County Commissioners, in which case the outcome of the appeal shall be determined by the Washoe County Board of County Commissioners. Any appeal must be filed in writing with the Planning and Building Division within 10 calendar days from the date the written decision is filed with the Secretary to the Planning Commission and mailed to the original applicant.



RESOLUTION OF THE WASHOE COUNTY PLANNING COMMISSION

INITIATE AND ADOPT AMENDMENTS TO THE WASHOE COUNTY MASTER PLAN, PUBLIC SERVICES AND FACILITIES ELEMENT, MASTER PLAN MAP (WMPA20-0005), AND RECOMMENDING ITS ADOPTION TO THE BOARD OF COUNTY COMMISSIONERS

Resolution Number 20-19

Whereas, Master Plan Amendment Case Number WMPA20-0005 came before the Washoe County Planning Commission for a duly noticed public hearing on August 4, 2020; and

Whereas, the Washoe County Planning Commission heard public comment and input from both staff and the public regarding the proposed master plan amendments; and

Whereas, the Washoe County Planning Commission gave reasoned consideration to the information it received regarding the proposed master plan amendments;

Whereas, the Washoe County Planning Commission has made the following findings necessary to support adoption of the proposed Master Plan Amendment Case Number WMPA20-0005, as set forth in NRS chapter 278 and Washoe County Code Chapter 110 (Development Code), Article 820:

Washoe County Code Section 110.820.15 (d) Master Plan Amendment Findings

1. Consistency with Master Plan. The proposed amendment is in substantial compliance with the policies and action programs of the Master Plan.
2. Compatible Land Uses. The proposed amendment will provide for land uses compatible with (existing or planned) adjacent land uses, and will not adversely impact the public health, safety or welfare.
3. Response to Change Conditions. The proposed amendment responds to changed conditions or further studies that have occurred since the plan was adopted by the Board of County Commissioners, and the requested amendment represents a more desirable utilization of land.
4. Availability of Facilities. There are or are planned to be adequate transportation, recreation, utility, and other facilities to accommodate the uses and densities permitted by the proposed Master Plan designation.
5. Desired Pattern of Growth. The proposed amendment will promote the desired pattern for the orderly physical growth of the County and guides development of the County based on the projected population growth with the least amount of natural resource impairment and the efficient expenditure of funds for public services.
6. Effect on a Military Installation. The proposed amendment will not affect the location, purpose and mission of the military installation.

Now, therefore, be it resolved that pursuant to NRS 278.210(3):

- (1) Subject to approval by the Washoe County Board of County Commissioners and a finding of conformance with the Truckee Meadows Regional Plan, the Washoe County Planning Commission does hereby adopt Master Plan Amendment Case Number WMPA20-0005, comprised of the text as included at Exhibit A to this resolution, descriptive matter and other matter intended to constitute the amendments as submitted at the public hearing noted above; and,
- (2) To the extent allowed by law, this approval is subject to the conditions adopted by the Planning Commission at the public hearing noted above.

A certified copy of this resolution shall be submitted to the Board of County Commissioners and any appropriate reviewing agencies in accordance with NRS 278.220.

ADOPTED on August 4, 2020

WASHOE COUNTY PLANNING COMMISSION

ATTEST:

Trevor Lloyd, Secretary

Larry Chesney, Chair

Attachment: Exhibit A – Washoe County Master Plan Public Services and Facilities Element

Exhibit A, WMPA20-0005



Master Plan Public Services and Facilities Element



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Department of Community Development

Master Plan Public Services and Facilities Element

This document is one of a series which, as adopted, constitute a part of the Master Plan for Washoe County, Nevada. This document is available for \$5.00 from the Washoe County Department of Community Development. If you have a copy of the Master Plan notebook, please place this behind the Public Services and Facilities Element tab. The Washoe County Master Plan is also available on our department's website.

In accordance with Article 820 of the Washoe County Development Code, the Public Services and Facilities Element was amended by Comprehensive Plan amendment Case Number CP10-002. This amendment was adopted by Resolution Number 10-11 of the Washoe County Planning Commission on May 20, 2010, by the Washoe County Commission on July 13, 2010, and found in conformance with the Truckee Meadows Regional Plan by the Regional Planning Commission on September 8, 2010. The adopting resolution was signed by the Washoe County Commission Chairman on September 9, 2010.

THIRD

PRINTING,

SEPTEMBER

2010

Acknowledgements (original adoption)

Washoe County Board of County Commissioners

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Introduction

The direction and extent of development is influenced by the availability of services and facilities to support growth. These services and facilities include those owned and operated by public agencies; those owned by public agencies and leased for private operation; and those owned and operated by private concerns, including individual residents. The most influential services include water supply, wastewater treatment, flood control, and transportation. Transportation services are detailed in the Land Use and Transportation Element of the Master Plan. Water supply management, wastewater management, and runoff management are addressed in the first three sections of this element. The public services and facilities needed to serve both existing and planned land uses also include public safety, general government, libraries, schools, and parks and recreation. Each of these services are also discussed in this element.

One of the functions of the Growth Management Program is to effectively program future public services and facilities to meet the needs identified by the Master Plan. Improvements and new programs are forecast and timed through the Capital Improvements Program (CIP). The CIP identifies priorities and funding for each capital improvements project. The cycle of needs identification, needs analysis, and project programming will be periodically reviewed to ensure adequate services and facilities are provided to those who need them at the time they are needed.

Policies and Action Programs

PSF.0.1 Comply with all applicable 2019 Truckee Meadows Regional Plan policies.

- PSF.0.1.1** The 2019 Truckee Meadows Regional Plan List of Facilities and Services Standard table will be reviewed for any master plan amendments and for project of regional significance request.
- PSF.0.1.2** Master plan amendments and project of regional significance request will prioritize the hierarchy for resources, service and infrastructure as address by the 2019 Truckee Meadows Regional Plan policies PF2 and RF2 and as outlined in NRS 278.0274.
- PSF.0.1.3** The 2019 Truckee Meadows Regional Plan policies for regional utility corridors must be acknowledged, promoted, and followed for any master plan amendments and for project of regional significance.
- PSF.0.1.4** The 2019 Truckee Meadows Regional Plan policies for the Regional Water Management Plan (RWMP) will be reviewed and included for any master plan amendments and for projects of regional significance.
- PSF.0.1.5** The 2019 Truckee Meadows Regional Plan policies for water and wastewater will be reviewed and will not extended from the TMSA to the RA, except for the management of reclaimed water as a method to effectively manage reclaimed water from wastewater treatment facilities.

Water Supply Management

The finite water resources of Washoe County and the lack of coordinated water management has become one of the constraints upon the growth of the County. Over-appropriation of groundwater has given the public a lack of confidence in water management and has created the perception that all water resources are over-appropriated.

Washoe County's water resources can support the projected population of 379,400 by the year 2007, assuming present water consumption rates continue, provided some additional agricultural water rights are obtained and converted to municipal and industrial use, out of basin groundwater is imported, unnecessary water use is eliminated, and/or more efficient management of storage occurs. Additionally, a population greater than projected can be supported with water conservation or a shift in the mix of single- and multi-family homes and additional water storage. Because these various water resource strategies are interrelated, the major components of the water resources system must be viewed in their entirety to best determine plans and management strategies.

In the southern portion of Washoe County, the primary purveyor of water is Westpac Utilities serving the Cities of Reno and Sparks along with portions of unincorporated Washoe County. Outside of the Westpac Utilities service area, numerous entities provide water service and "manage" the water resources. Small water utilities have been developed to supply individual subdivisions. Many of the small water utilities are under-capitalized and have no full-time management, resulting in a lack of ability to respond to emergency or routine repairs. Fragmentation of water management by the multitude of water purveyors and the lack of an overall water management entity has resulted in the inefficient development of the available water resources. As a result of this situation, Reno, Sparks and Washoe County have agreed that a new Regional Water Resource Management Agency, responsible to the Washoe County Board of County Commissioners, should be created to provide overall direction for water supply, wastewater and runoff management issues. Washoe County will be preparing a regional water supply and quality study that will result in a comprehensive and coordinated plan for water, wastewater, flood control and storm drainage.

Currently, each respective area plan presents numerical estimates of water resources, where appropriate, for the planning area. This information should be used in making general decisions. However, those estimates should not be used for individual projects or facility planning. Facility planning and design will require an additional evaluation of costs, water supply impacts, and environmental impacts.

Hydrologic Concepts

Precipitation falling within the Truckee Meadows and surrounding watersheds is the source of all of the water that is readily available for use within the region. Long-term groundwater mining, or the permanent removal of groundwater from storage, is a source of water supply that does not depend upon current local precipitation.

Average precipitation varies greatly within the region. On the floor of Spanish Springs Valley, the average precipitation is less than seven inches per year and is typical of the arid and semi-arid portions of the region. In contrast, the average precipitation near the top of Mt. Rose is in excess of 60 inches per year. Year-to-year variations in precipitation result in droughts and flooding.

After precipitation falls upon the land surface, it may run off, infiltrate into the soil, or directly evaporate. Water that infiltrates into the soil may be utilized by vegetation or continue past the root zone in a downward direction to the zone of saturation to become groundwater recharge. Natural groundwater recharge also occurs from streams and lakes that are located above materials that have the ability to accept recharge.

Under natural conditions, groundwater recharge and surface water runoff are expressed by equivalent natural uses of the water. The natural evaporation and transpiration of water equals the available water resources of a region. Water resource development is limited to the amount of existing non-beneficial uses that can be replaced. These may include natural uses such as playas, wetlands and phreatophytes; and man's uses such as the evaporation of wastewater, landscape irrigation, decorative water uses and other similar uses. A political and environmental decision is necessary to determine non-beneficial uses. The natural uses of water cannot be preserved if water is used by man.

When water is pumped from a well, a cone of depression is formed around the well. This cone of depression provides the necessary gradient for water to flow to the well. As water is pumped, the cone of depression expands until it encounters a sufficient source of recharge to balance the pumpage. If sufficient recharge is not encountered, the cone of depression expands and deepens, removing water from storage within the aquifer. Even with adequate recharge, a cone of depression forms and some water is produced from storage.

With proper management, the ability to utilize groundwater storage can be beneficial in times of drought. Approximately 10 to 25 percent of the volume of an aquifer is water that can be removed. Practical pumpage limitations, land subsidence and water quality limit the use of groundwater storage. This storage can be used to augment surface water storage to supply water in droughts. To be used as a drought reserve, facilities must be built to pump water from the groundwater reservoirs and to recharge the reservoirs when excess surface water is available. This method of water management is called "conjunctive use".

Resource Estimates

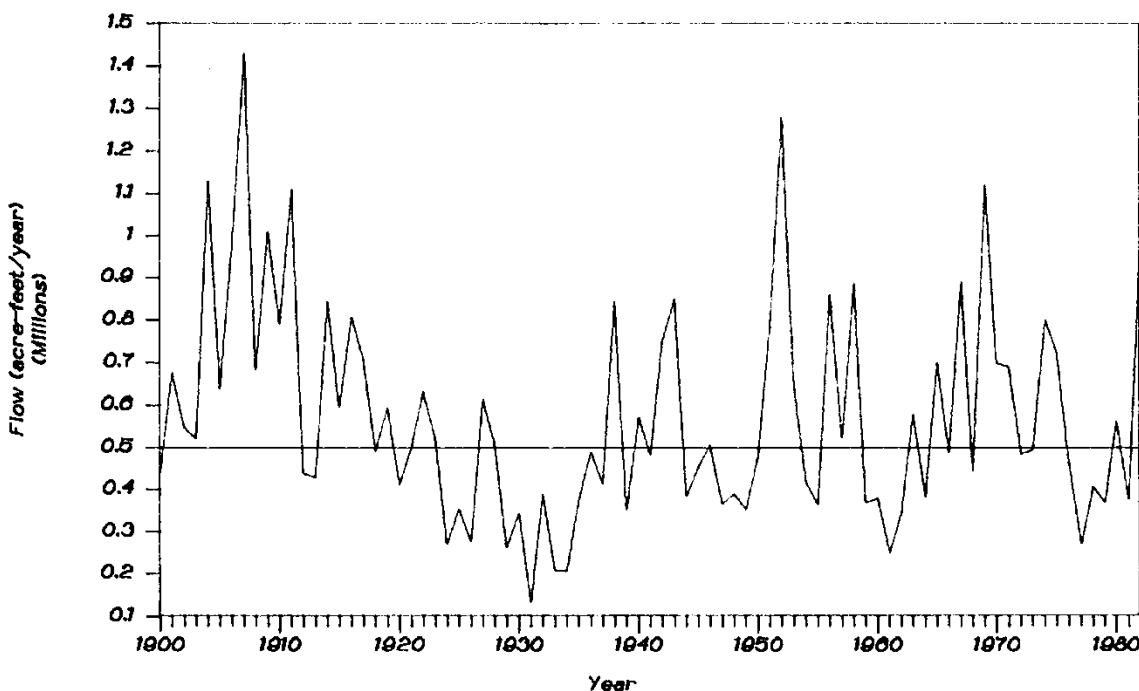
The amount of use that can be realized from a given finite water resource is dependent upon the management of the use. Recycling and secondary recharge can allow non-consumptive uses of water in excess of the natural predevelopment losses from the region. Man's consumptive use of water cannot exceed the natural losses without resulting in groundwater mining.

Truckee River

The Truckee River is the major source of water for the region. The 1900-82 average (mean) flow of the river at Farad is about 573,000 acre feet per year (AF/Y). This annual flow is only attained or exceeded about 40 percent of the time. Fifty percent of the time, the annual flow of the river is less than 503,000 AF/Y. Several years of high flows have resulted in an average (mean) flow in excess of the median (50 percentile) flow. Figure 1 on the following page depicts the historical flows of the Truckee River at Farad. The flow of the river is highly variable and requires reservoir storage for use as a municipal and industrial supply.

Seven reservoirs on the Truckee River and its tributaries provide storage to regulate the flow of the river. Even with the reservoirs, the storage is not sufficient to fully regulate the flow of the river. Much of the water originates downstream of Lake Tahoe which provides about 70 percent of the available storage on the river system. The remaining 30 percent of the storage must be used to regulate about 70 percent of the river's flow at Farad. Based on the probability distribution fitted to the manual flow data (see Figure 2 on page 6), the future probability of different annual flows at the Farad gage was developed (see Table 1 on the following page).

Figure 1
Truckee River at Farad
Annual and Median Flow



Source: Washoe County Department of Community Development.

Table 1
Probability Distribution
Annual Flows at the Farad Gage

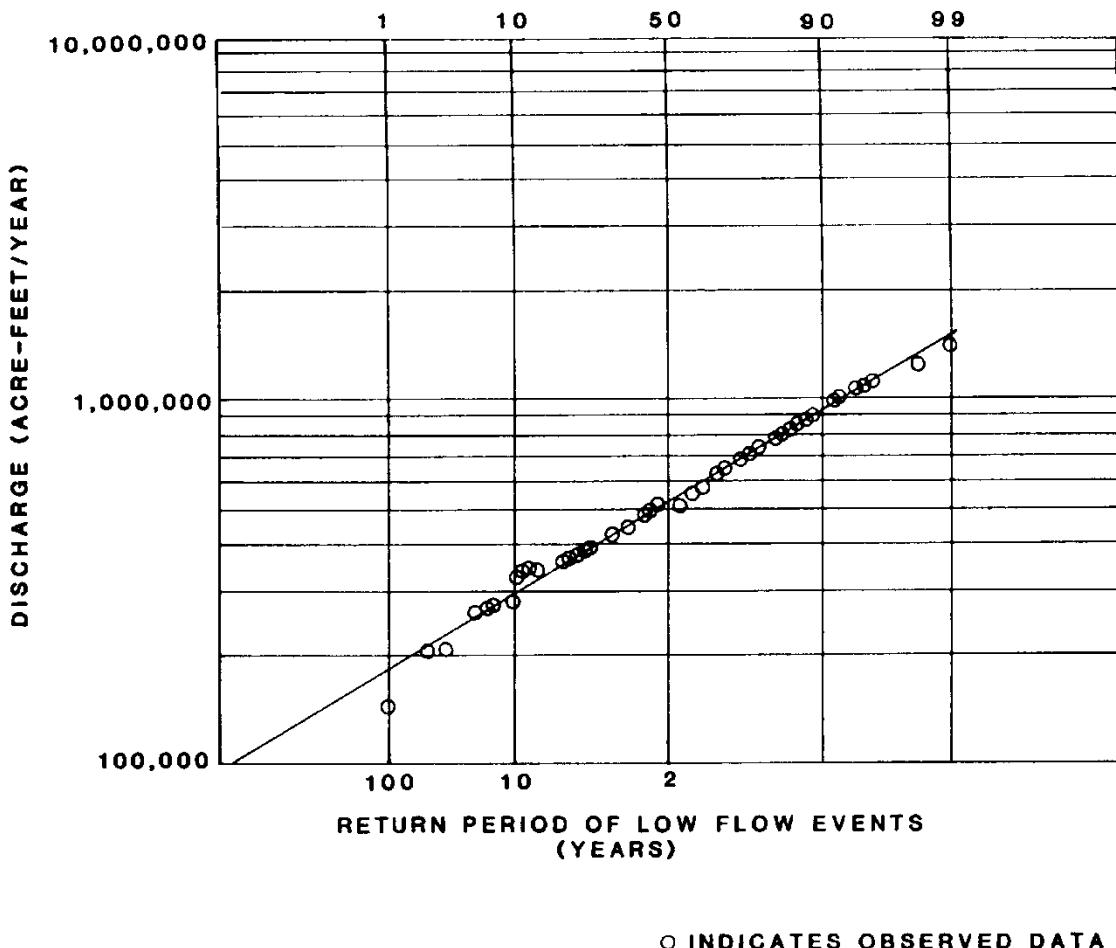
Return Period Years	Annual Flow AF
10	293,000
20	249,000
40	216,000
100	182,000
200	161,000
500	146,000

Source: Washoe County Department of Community Development.

Under the present management of the reservoirs, the Truckee River can supply only a small portion of the face value (duty) of the Truckee Meadows irrigation rights during the months of June through October for years similar to 1931 and 1934¹. Westpac Utilities uses the yield of water rights in these "Critical Years" to determine the amount of water service that can be provided from irrigation water rights.

¹ Westpac Utilities, Water Resource Plan, 1988 - 2088 (1989).

Figure 2
Probability and Return Period for Annual Flows at the Farad Gage
Probability of a Lower Discharge



Source: Washoe County Department of Community Development.

There are four factors which go into an analysis of water right yield: water rights held for municipal and industrial (M&I) use, actual water available, timing and magnitude of demand, and availability of storage. During drought periods, when water supply is not adequate to meet water rights, deficiencies must be made up from privately stored water. Based on current demand and the storage capacity available to Westpac, approximately 58 percent of the face value of purchased irrigation rights can be delivered during a drought.

The 58 percent figure will tend to change as demand characteristics and storage change. For instance, if additional storage capacity became available, the yield figure would be higher except insofar as it is offset by growth in demand. Conversely, the percentage figure may be decreased to an even lower level based on the drought experienced in the late 1980s and early 1990s.

Several enhancements to the present management can provide a significant increase in the effective surface water supply. The major areas of improved management are: the enforcement of conservation during droughts, the use of additional upstream storage, and conjunctive use of surface and groundwater resources. Effective water conservation requires the mandatory use of water meters. Washoe County has

required water meters be installed on all new residences since 1982. There are complex legal, physical and institutional limitations to acquiring additional upstream storage. The Truckee-Carson-Pyramid Lake Water Rights Settlement Act (Public Law 101-618) signed by President Bush in November 1990 has provisions for acquiring additional upstream storage but requires the installation of water meters within the incorporated cities (Reno and Sparks). Conjunctive use of surface and groundwater resources poses some uncertainty due the limited information available at the present time. Some or all of these hurdles must be overcome if the Truckee Meadows is to continue to grow and not suffer acute water shortages during droughts.

The primary objections to conjunctive use are the cost of facilities and the problem of poor quality water in portions of the Truckee Meadows. Other factors requiring evaluation are the impacts upon adjacent and downstream water users, long-term water quality impacts, ability to provide artificial recharge to replenish depleted groundwater reservoirs, and storage availability within the groundwater reservoirs. A detailed evaluation of conjunctive use is needed to refine the costs, evaluate the feasibility, and determine if the capital and operating costs are justified.

Other methods to increase the yield of present water rights include the reuse of effluent and the use of a return flow credit for effluent returned to the Truckee River. These methods are based on the increase in return flow that has resulted from urbanization. Under irrigation use, about 25 to 35 percent of the water applied to the land returns to the river, compared to the 50 percent return from M&I use. The higher return flow and the limited diversion (58 percent) of agricultural rights converted to M&I use have resulted in a decrease in water consumption in the Truckee Meadows over the past 80 years. The reuse of effluent may be capable of supporting a significant irrigation demand in the Truckee Meadows.

Groundwater

Quantification of groundwater resources is a matter of determining the amount of water that can be pumped with acceptable consequences. This quantity is called the "safe yield" or "perennial yield" of a basin. The definition of acceptable consequences is a unique combination of legal, environmental, and water resource planning criteria for each basin. A complicating factor in estimating groundwater resources is the connection with the surface water resources in most basins. "Potential recharge" has been determined for the groundwater basins in Washoe County. This method estimates the total water resources of a basin and does not indicate if the streams actually recharge the groundwater basin or if the water may be captured by wells.

A misconception about groundwater resource estimation is that the short-term capacity of wells in a basin is equal to the perennial yield of the basin. If this theory were true, it would be impossible to mine groundwater. The short-term capacity of a well is strictly a function of well construction and geology and does not reflect the ability of the basin to sustain the well through recharge.

The groundwater resources of Washoe Valley have been estimated from a total basin water budget, based upon the behavior of Washoe Lake. The primary recharge to the basin is approximately 4,000 AF/Y². About 10,000 AF/Y of groundwater rights depend upon this source of water. The use of groundwater in Washoe Valley, like the use of groundwater in any other part of the world, reduces a natural use of the groundwater. In Washoe Valley, groundwater and irrigation tailwater flow to the lakes and wetlands where they support wildlife and recreational uses. Any consumptive use of groundwater reduces the quantity of water entering the lakes and wetlands. The identification of acceptable impacts has not been made for Washoe Valley, although the State Engineer's ruling on Washoe Valley water applications indicates additional water rights will result in unacceptable impacts.

Groundwater estimates for the remainder of the County are not as well defined. The next best estimate has been made for the south portion of the Truckee Meadows with approximately 5,000 AF/Y of

² Freddy E. Arteaga and William D. Nichols, Hydrology of Washoe Valley, Washoe County, Nevada (U.S. Geological Survey Open-File Report 84-465, 1984).

capturable phreatophyte losses³. The north and central Truckee Meadows are difficult to evaluate as a result of urbanization. Westpac has estimated the safe yield due to water quality limitations of the north and central Truckee Meadows at approximately 7,000 to 12,000 AF/Y. The constraints posed by water quality considerations might be revised if mitigation measures were implemented or if the groundwater hydrology of these basins were more precisely understood.

A water budget for Warm Springs Valley was adopted by the Washoe County Board of County Commissioners in December of 1990. This water budget estimates the planning perennial yield of groundwater in the Warm Springs Valley Hydrographic Basin. This estimate must be confirmed by a comprehensive water study of the basin. Additionally, the perennial yield of groundwater for the Spanish Springs Valley Hydrographic Basin is being studied in the Water and Wastewater Facility Plan for Spanish Springs Valley being prepared under direction of the Washoe County Utility Services Division. Finally, investigations of the hydrologic characteristics of Lemmon Valley are ongoing. Results of studies by the Department of Community Development indicate a combined ground and surface water yield of approximately 3,100 AF/Y in Lemmon Valley. About half of this water yield may be surface water. A portion of the groundwater is lost to phreatophytes, without the opportunity to be captured by wells. The area south of Silver Lake is a groundwater discharge area with many acres of phreatophytes and few wells.

For the remainder of Washoe County, groundwater availability has been estimated in terms of potential recharge or water yield. Each of these quantities reflects the total water availability in a basin and is not an estimate of the groundwater resource. To effectively capture all of the water yield or potential recharge, wells must be properly designed and located and as much surface water as possible must be artificially recharged. The proper location of wells is rare in these basins and artificial recharge has not been implemented. Most wells are located adjacent to the subdivision where water is used and not in a location where the wells can capture a non-beneficial use of groundwater. Without the capture of a natural use of groundwater, long-term mining will occur even though the water use may be less than the natural recharge to the basin.

Water Supply

In Washoe County, excluding the Lake Tahoe area, there are in excess of 300,000 acre feet of water rights either adjudicated through the Orr Ditch Decree (Truckee River water) or permitted by the State Engineer (ground and surface water). However, the actual extent of the water resource in a dry year is significantly less than indicated by the water rights.

Water supply for the Lake Tahoe basin is controlled by the California-Nevada Interstate Compact ratified by the State of Nevada in 1969 (NRS 538.600) and ratified by the U.S. Congress as part of the Truckee-Carson-Pyramid Lake Water Rights Settlement Act (Public Law 101-618). The Interstate Compact allocates 11,000 acre-feet annually to the State of Nevada within the Lake Tahoe basin. Eight to nine thousand acre-feet per year of water rights are currently being used for the entire Nevada side of the Lake Tahoe basin. The two water purveyors within Washoe County, the Incline Village General Improvement District and the Crystal Bay Water Company, together with the U.S. Forest Service have 6,417 acre-feet of water rights. Water resource planning for Lake Tahoe should include the Tahoe Regional Planning Agency, the Nevada State Division of Water Resources, existing water purveyors, and local governments.

Water planning for the remainder of Washoe County must focus on the water supply issues in the Truckee Meadows, because that is where approximately 80 percent of the population of the entire County resides. In the Reno and Sparks area, a water supply plan has recently been prepared by Westpac Utilities. The 1988-2008 Water Resource Plan was submitted by Westpac in January 1989 to the Public Service Commission. It addresses present supply, near-term future supply and the long range supply that would

³ Cooper and Associates, Inc., CH₂M Hill, Inc., and CES, Inc.; South Truckee Meadows - Washoe Valley Water and Wastewater Facility and Management Plan (1982).

be available when M&I use of Stampede Reservoir is allowed according to the provisions of the Truckee-Carson-Pyramid Lake Water Rights Settlement Act. The plan also addresses other water supply options such as additional upstream storage, development of tributary streams in or near the Truckee Meadows, additional groundwater development and recharge in the Truckee Meadows, and water importation.

Additional management alternatives become possible if the area being considered is larger than the present Westpac service area. With the addition of basins outside of the Truckee Meadows, additional groundwater storage alternatives develop. Water quality constraints of conjunctive use are lessened by reducing the stress upon each basin. Table 2 summarizes the current water supply available in the County and indicates those areas where supply must be increased.

Table 2
Estimated Water Supply and Projected Population

Planning Area	Estimated Water Supply (000s af/yr)	Population Equivalent (000s)	Projected 2007 Population (000s)
Forest	1.3	3.9	5.1
North Valleys	2.6	7.9	26.7
South Valleys	20.6	62.4	8.5
Spanish Springs	0.6	1.8	9.7
Tahoe	11.0	33.3	12.5
Truckee Meadows			
North	80.0	242.4	252.1
South	25.7	77.9	54.0
Verdi	3.0	9.1	5.4
Warm Springs	3.0	9.1	1.7
Other	N/A	N/A	3.7
Total	147.8		379.4

Notes: Abbreviations are as follows: N/A = not applicable and af/yr = acre feet per year. Detailed notes and sources for the figures in Table 2 are contained in Appendix A.

Source: Washoe County Department of Community Development.

The North Valleys planning area contains the Lemmon Valley Hydrographic Basin, a critical basin designated by the State Engineer. In the 1970s, the State Engineer determined the basin to be severely over-appropriated, canceled several thousand acre feet of water rights, and imposed a subdivision moratorium. A parcel map moratorium was imposed by Washoe County and the City of Reno at the request of the State Engineer. The estimated perennial groundwater yield of the basin, 1,300 acre feet per year⁴, is exceeded by the present development within the basin. As previously stated in the discussion of hydrologic concepts, the development of a groundwater resource results in drawdown within a groundwater basin. The drawdown will continue until storage is depleted if a sufficient quantity of recharge is not available to meet the demands of wells. In portions of Lemmon Valley, the water table has been drawn down to a point beyond the level where it could be stabilized by natural recharge. The water level in the Oregon Boulevard and Tamra Drive areas of the basin has fallen by five to ten feet per year in the past ten years, impacting many domestic wells (monitoring by the USGS, the State Engineer,

⁴ James R. Harrill, Evaluation of the Water Resources of Lemmon Valley, Washoe County, Nevada, with Emphasis on Effects of Groundwater Development to 1971 (Water Resources Bulletin No. 42, 1973). The perennial yield figure for Lemmon Valley West and Lemmon Valley East, combined, is 1,600 acre feet/year according to Table 3-1, Regional Water Planning and Advisory Board of Washoe County, Regional Water Resource Plan, (1990).

and County staff). In most of the basin, the rate of decline has been much less, on the order of one to two feet per year. The Stead area and the wastewater disposal area south of the Lemmon Valley playa have experienced a rise in the water table from secondary recharge. About 700 acre feet of groundwater rights are not in current use in the basin and the future use of these rights will impact the rate of water level decline. For these reasons, the Federal Housing Administration will not insure a home loan in the basin if the home has a domestic well. To allow the continued development of existing lots in Lemmon Valley, some additional water resources must be developed within the basin or water must be imported to the basin. Cooperation between the various water purveyors and governments within the basin is necessary to manage the limited resources and assure a reliable water supply.

For the remainder of the unincorporated County outside of the Lake Tahoe basin, the County is the primary water utility. The water resources in these planning areas are monitored as part of the County utility operations. The area plans for these planning areas are based upon the best available water resource information. If the resource information is found to be in error through monitoring, the area plans will be modified to reflect the new information. The County Utility Services Division will not provide water service to new development unless water will be available for the long-term use by the development.

Water Conservation

In addition to the water supply management alternatives discussed in the previous section, water conservation is an important component of any management plan. As Washoe County develops, the type and mixture of housing units and commercial uses will change. A larger portion of the future housing units is expected to be on small lots or will consist of multi-family units. This will tend to reduce the per capita water demand. If commercial use shifts away from the present service orientation to include more light manufacturing or other low water use facilities, the water demand will be reduced on a per capita basis. Any of these reductions in the per capita water demand will increase the population supported by the available water supply. It is most important that demand be reduced during periods of drought as growth of the Truckee Meadows depends primarily on the limited supply of water in the Truckee River. Mandatory drought conservation which can best be achieved by universal water metering and the acquisition of additional storage is necessary; without them, drought conditions will be difficult, if not impossible, to manage.

The modification of water demand will have a direct impact upon the use obtained from the available water resources. Conservation can be accomplished by voluntary actions of the consumers or by actions of the water supplier. Voluntary and mandatory conservation for surface water systems has been implemented in Washoe County during drought periods. Voluntary or mandatory conservation during drought periods is currently not required for groundwater systems. However, conservation could be implemented as groundwater systems are integrated with surface water systems. Reducing water system pressure can result in conservation of water, without the need for public cooperation. Voluntary conservation is not popular in western Nevada. A common statement by residents of the Reno area is, "Why should I save water so they can build another hotel/casino?" This attitude makes voluntary conservation a difficult objective to attain. To overcome this attitude problem and achieve water conservation, incentives that directly benefit the consumer are needed. Economic rewards may be the way to achieve conservation.

Under present utility management, conservation measures are not accounted for when water rights are obtained from the developers of new residential projects. Each utility has its own use factor, generally reflecting lot size and ignoring water-conserving landscaping. This does not provide a conservation incentive to the developers of residential projects. The result of this is the excessive use of high water demand vegetation for landscaping and a reduction in the potential water supply for interior household use. Water conserving landscaping can reduce the water demand by 20 to 50 percent depending upon the type of landscaping used and the lot size. Like voluntary water conservation, public acceptance of replacing existing landscaping with water conserving vegetation may meet with resistance due to public

attitude. The effect of such an objective on the aesthetics and quality of life in the designated area needs to be considered.

With metered water service, the customers have control over their water use and monthly water bills. The freedom to choose the amount of water use is partially constrained by the landscaping around a home. An increasing block rate structure, similar to the "lifeline" electric and natural gas rate structures in other states, can allow the basic interior domestic use of water at low rates, with an increasing unit cost for additional water. This type of rate structure discourages excessive water use and provides low-cost water for basic necessary residential uses. However, the duty of water for different landscape types in the Great Basin environment needs to be considered to determine what is excessive water use.

The water conservation ordinances of various jurisdictions in Washoe County require water conservation during periods of drought, although effective enforcement of the ordinances is limited. Through a modification of the present water conservation ordinances, the local jurisdictions in Washoe County can require the use of water meters as a conservation device to provide a more effective method to implement water conservation. For example, a penalty for excessive water use could be in the form of a fine. During periods of drought, the future growth of Washoe County may require drought conservation and a positive method of enforcement.

Water meters also provide cost equity to users for water use. Under the flat rate billing, all users with the same size water service pay the same amount without considering the amount of water used. When users must pay for the actual water use, the demand tends to be reduced.

Water Service

At the present time, more than 100 water purveyors serve the region. Water purveyors include: Westpac Utilities, Washoe County, Sun Valley Water and Sanitation District, Incline Village General Improvement District, Purity Utilities, Silver Lake Water Distribution Company, South Truckee Meadows General Improvement District, and many others. URS Engineers conducted a survey of the water and sewer utilities in Washoe County to determine the condition of facilities and concerns of the utility operators.⁵ Forty-eight water utilities responded to the survey. Most of the utilities expressed concerns of inadequate fire protection and system maintenance. Funding, water quality, and water supply were concerns of many of the respondents.⁶

To prevent the formation of new small water and sewer utilities, Washoe County amended the County Code to require dedication of all new utility facilities to the County. This action was taken after the County had to take over operations of several small utilities. The major problem faced by the small utilities is financing repairs and system improvements. Public Service Commission (PSC) regulations require the utilities to make repairs and system improvements before the utility rates can be increased to pay for the work. The utilities are allowed to charge customers for a reasonable return on investment in the facilities. The investment must be made before the rates are increased. Facilities given to utilities by developers do not represent an investment by the utility and do not generate a profit to pay for repair or replacement. This leaves the small, under-capitalized utilities without the ability to repair or improve facilities. The condition of these utilities continues to decay until the consumers demand assistance from the County or the PSC.

Under County or other governmental ownership, the small utilities are not subject to regulation by the PSC. County owned utilities are under the jurisdiction of the Washoe County Board of County Commissioners. There are many financing avenues available for County or government owned utilities and interest rates are substantially lower than the rates available to private utilities.

⁵ URS Engineers, Utility Development Plan, Water and Sewer Utilities, (Prepared for Washoe County, Nevada, 1984).

⁶ The reader is referred to the Washoe County Utility Development Plan for a complete tabulation of the survey results.

Policies and Action Programs

- PSF.1.1 Assign water resource management for all of Washoe County, to include the Cities of Reno and Sparks, to a Regional Water Resource Management Agency.
- PSF.1.1.1 Washoe County will be the Regional Water Resource Management Agency. Washoe County will determine and manage the timing of water resource service and complete appropriate facilities plan(s) as needed.
- PSF.1.1.2 Washoe County, acting as the Regional Water Resource Management Agency and in coordination with appropriate federal and state agencies, will supply and manage water resources in order to provide adequate water service to meet the needs of planned development consistent with adopted regional policies regarding water quality and protection of other environmental resources.
- PSF.1.1.3 Washoe County shall utilize Regional Water Resource Policy and Technical Advisory Committees to study and recommend appropriate policies and programs to address water resource issues including water conservation, surface water and groundwater quality and quantity, natural recharge and recharge areas, and provision of adequate drought reserves.
- PSF.1.2 Prepare a water supply and water quality plan for Washoe County.
- PSF.1.2.1 Washoe County, acting as the Regional Water Resource Management Agency, shall prepare a water supply and water quality plan for Washoe County which satisfies all water resource goals, objectives, and policies contained in the Tahoe Regional Plan, the Truckee Meadows Regional Plan, and Washoe County Master Plan; and that attains and maintains federal, state, and local water quality standards.
- PSF.1.3 Coordinate all water supply management facilities in Washoe County.
- PSF.1.3.1 Washoe County, acting as the Regional Water Resource Management Agency, shall have planning, design, construction, financing, plus operation and maintenance responsibility for all water supply facilities in Washoe County.
- PSF.1.3.2 Washoe County, acting as the Regional Water Resource Management Agency, shall develop policies addressing the need for and use of interties between water suppliers and between hydrographic basins. The criteria for using and negotiating interties should be included in a water service and facility plan.
- PSF.1.4 Consolidate water management and supply in Washoe County to reduce the duplication of services and facilities and provide consistent non-competitive water management.
- PSF.1.5 Prohibit the creation of new private water and wastewater utility companies in Washoe County.
- PSF.1.6 Ensure that private water and sewer companies with insufficient equity to remain viable not become certificated utilities under the jurisdiction of the Public Service Commission.
- PSF.1.6.1 Washoe County, acting as the Regional Water Resource Management Agency, will review all water and sewer utility applications for Certificates of Public Convenience, within Washoe County, and make recommendations to the Public Service Commission.

- PSF.1.7 Prohibit the dedication of facilities and water rights to private water and sewer utilities.
- PSF.1.7.1 New facilities or water rights required by a private water utility shall be financed, built, and owned by the utility or shall be provided by developers and retained in public ownership by dedication to Washoe County. Washoe County will then lease the facilities to the private utility at a cost of the normal maintenance of the facilities.
- PSF.1.7.2 When a parcel is created in a Public Service Commission created or recognized service area, the type and amount of water rights to be dedicated will be the type and amount required by the water purveyor. The water rights will be dedicated to Washoe County, recorded on the subdivision or parcel map, and leased to the water purveyor by Washoe County when service is extended to the parcel.
- PSF.1.8 Ensure water systems and facilities meet all applicable state and local requirements and make adequate provision for matters including, but not limited to, minimum size of system, inspection, fee collection, and maintenance. The standards and procedures for the creation of water systems and facilities are subject to review and approval by the Board of County Commissioners.
- PSF.1.9 Require the uniform mandatory installation and use of water meters in Washoe County. Water meters are essential to provide for water conservation, equity in billing for water use and effective management of water resources.
- PSF.1.9.1 Water meters will be required on all new residential, commercial and industrial construction, to the extent allowed by law.
- PSF.1.9.2 The Washoe County Utility Services Division will recommend that the Washoe County Board of County Commissioners amend the water conservation ordinances to allow the use of water meters to monitor and enforce water conservation.
- PSF.1.9.3 Where legally allowed, individual non-metered water users will be encouraged to request the installation of water meters on a voluntary basis. Economic incentives can be used to provide the needed encouragement.
- PSF.1.10 Prohibit long-term groundwater mining as a method of water management. Short-term groundwater mining is an unavoidable and acceptable aspect of all groundwater development schemes.
- PSF.1.10.1 Washoe County shall work with state and federal agencies to manage local groundwater resources to provide for annual use of these resources which does not exceed levels sustainable at current rates of inflow and recharge.
- PSF.1.10.2 The Washoe County Board of County Commissioners shall not approve land development activities dependent upon groundwater supplies which will cause the groundwater basin(s) to fall below self-sustaining levels as a result of the project's water consumption or effluent discharge method.
- PSF.1.11 Evaluate and study the conjunctive use of the groundwater basins.
- PSF.1.12 Plan water supply for Washoe County based upon meeting the average water demand in normal to dry years with additional water conservation measures or other actions in periods of severe drought.
- PSF.1.13 Ensure that a safe and dependable water supply is provided.

- PSF.1.13.1 Water budgets shall be established and approved by the Washoe County Board of County Commissioners for each and every hydrographic groundwater basin and subbasin within Washoe County. The basis for determining available water shall be that amount of perennial yield of a given basin or subbasin, together with the amount of recoverable augmented supply, which has not already been committed to beneficial use.
- PSF.1.13.2 When a water budget has been prepared, Washoe County will approve parcel splits and final maps only when that water budget shows firm water supply available. Additionally, water rights will be dedicated to Washoe County (based on the water budget and/or as stated in the adopted area plan) for all parcels or divisions of land maps when it is shown that existing water rights permits exceed the perennial yield of water in the basin.
- PSF.1.13.3 Development creating new parcels of 40.0 acres or less, with the potential for domestic wells, shall be required to have sufficient water rights transferred to each of the wells to the satisfaction of the State Engineer and the Board of County Commissioners prior to final County approval. These water rights shall then be offered for dedication to the County. The following conditions shall be met when applicable:
- a. Water rights change applications to transfer sufficient water rights to any proposed domestic well in a project must be approved by the State Engineer.
 - b. The quantity of water rights transferred to the domestic wells shall be to the satisfaction of the State Engineer, the Board of County Commissioners, and the appropriate Washoe County staff.
 - c. The State Engineer and the County may require additional water rights to meet other policy and development condition requirements.
- PSF.1.13.4 Areas planned for urban or suburban development (residential densities of one or more units per acre or comparable non-residential development) will be served by a community water supply system consistent with adopted regional policies and the Planning Area Minimum Service Standards in the Land Use and Transportation Element of the Washoe County Master Plan. In accordance with adopted regional policies and existing County ordinances, all new systems and facilities shall be dedicated to Washoe County.
- PSF.1.13.5 For each planning area, Washoe County, acting as the Regional Water Resource Management Agency and in cooperation with other departments and agencies, shall develop water service plans to coordinate the expansion of existing and new water systems. Where appropriate, the plans shall include groundwater recharge and the identification of recharge areas to be reserved from development.
- PSF.1.13.6 Stored water without a replenishing source shall not be used for purposes other than for fire protection. The use of stored water for fire protection is allowed only with the approval of the appropriate fire protection agency.

- PSF.1.13.7 Water supply planning and development must not adversely impact adjacent water users or other uses of water.
- PSF.1.13.8 The cost of water service to serve new development should be paid by the new development and the cost of service shall include the cost of extending service lines or facilities to the site.
- PSF.1.14 Control the price of water rights through the open market.
- PSF.1.15 Acquire and manage existing irrigation water rights as the primary method to increase the total municipal water supply.
- PSF.1.16 Consider the priority and past use of water rights in the acceptance of the dedication of water rights to Washoe County and/or water purveyors within Washoe County.
- PSF.1.17 Require dedication of water rights to Washoe County at the time of project recordation. A plan approved by Washoe County for the transfer, change in point of diversion, or change in use shall be outlined in sufficient detail to clearly state intended use.
- PSF.1.18 Ensure that sufficient water rights are dedicated to Washoe County when new parcels are created.
 - PSF.1.18.1 When new parcels creating the potential for domestic wells are created, the property owner may request an exception for the dedication of water rights for the existing parcel and/or existing domestic well. The acceptance of the exception will be at the discretion of the appropriate County agency and/or the Washoe County Board of County Commissioners. If the exception is neither sought nor accepted, then dedication of water rights will be for all parcels created by the subdivision or parcel map.
 - PSF.1.18.2 When new parcels are created which either require the installation of a community water system or are within the jurisdiction of a Public Service Commission established service area for a water purveyor, then dedication of water rights will be for all parcels created by the subdivision or parcel map.
- PSF.1.19 Support the municipal and industrial use of storage in Stampede Reservoir.
- PSF.1.20 Ensure water quality standards are maintained consistent with the Safe Drinking Water Act and in compliance with the Nevada Water Pollution Control Law and underground injection control regulations.
 - PSF.1.20.1 The Washoe County Department of Community Development, in conjunction with other appropriate agencies, shall evaluate potential groundwater quality impacts for any project meeting the criteria for a Project of Regional Significance. A mitigation plan shall be developed and approved for those projects which are determined to have significant impacts on groundwater quality.
- PSF.1.21 Protect groundwater recharge areas and develop programs to utilize groundwater discharge.
 - PSF.1.21.1 Known recharge areas along streams shall be protected from development and maintained to allow recharge to continue.
 - PSF.1.21.2 The capture and use of groundwater discharge, if it does not conflict with existing water rights, will be encouraged by Washoe County.
 - PSF.1.21.3 Washoe County will consider the adoption of an ordinance to protect recharge areas along streams. Discharge areas will be excluded from protection.

- PSF.1.22 Minimize the use of high water demand vegetation for decorative uses on public and private project landscaping.
- PSF.1.22.1 The Washoe County Board of County Commissioners shall adopt landscaping ordinances requiring that people pay for the full cost of the water they use and providing for drought resistant, low water consuming vegetation and efficient irrigation systems in all developments.
- PSF.1.23 Encourage new public and private development to use water conservation landscaping and fixtures.
- PSF.1.23.1 The Washoe County Department of Community Development shall include xeriscaping provisions in the Washoe County Development Code. The provisions will provide economic incentives to developers by adjusting the water rights dedication requirements to reflect the reduced water demand of water conservation landscaping and fixtures.
- PSF.1.23.2 The Washoe County Department of Community Development will develop and adopt standards for water conservation devices in the Washoe County Development Code.
- PSF.1.23.3 The Washoe County Department of Community Development will ensure that the new Development Code contains provisions to implement water conservation programs aimed at new and existing development.
- PSF.1.23.4 The Washoe County Department of Community Development will attach conditions to all subdivision approvals mandating installation of conservation devices.
- PSF.1.23.5 The Washoe County Utility Services Division will establish estimates of water demand for several sizes of residential lots with a variety of water conservation measures.
- PSF.1.24 Reduce water demand through xeriscape landscaping, reclamation, and reuse of wastewater for parks, medians, golf courses, and other appropriate application uses.
- PSF.1.24.1 The Washoe County Department of Community Development will include provisions for reclamation of water resources and appropriate uses for wastewater application in the Washoe County Development Code.

**WMPA20-0005
EXHIBIT A**

Wastewater Management

The collection, treatment and ultimate fate of wastewater are factors which affect the water resources of the region. Water quality is directly influenced by the increase in dissolved and suspended constituents from the mixing of treated effluent with a surface or groundwater resource. Wastewater induced changes in the ecological balance of a stream or lake may result in excessive bacterial or plant growth, affecting the use of the water resource. Table 3 shows the utilization and capacity of public wastewater treatment facilities in Washoe County, excluding the Tahoe planning area.

Table 3
**Utilization and Capacity of Wastewater Treatment Facilities
in Washoe County, 1989**

Wastewater Treatment Facility	Current Utilization (MGD)	Current Capacity (MGD)
Reno-Sparks Wastewater Treatment Facility	27.0	40.0
South Truckee Meadows Treatment Facility	0.2	0.8
CDB Treatment Facility	0.1	0.3
Reno-Stead Treatment Facility	0.8	1.5
Lemmon Valley Treatment Facility	0.2	0.3
Total	28.3	42.9

Notes: Abbreviations are as follows: MGD = million gallons per day. Operations at the CDB facility will be terminated when that plant's capacity is transferred to the South Truckee Meadows Treatment Facility. The planned future capacity of the South Truckee Meadows Treatment Facility is 6.0 MGD. Figures do not include the Tahoe planning area served by the Incline Village General Improvement District.

Source: Washoe County Utility Services Division.

Water supply and wastewater disposal must be coordinated to avoid conflicts in management and planning. Washoe County will prepare a regional water supply and quality study that will result in a comprehensive and coordinated plan for water, wastewater, flood control and storm drainage.

Truckee River

Water quality standards have been established to protect the quality of the Truckee River system. These standards recognize the recreational, wildlife, and water supply uses of the river. The historical water quality of the Truckee River is maintained through the implementation of these standards. No additional sources of pollution can be added to the river system without violating the standards. Pollution sources may be modified or moved if water quality will not be adversely impacted.

South Truckee Meadows

Wastewater treatment and disposal outside of the service area of the Reno-Sparks Wastewater Treatment Plant can impact the water quality and quantity of the Truckee River or a groundwater resource. The South Truckee Meadows/Washoe Valley Water and Wastewater Facility and Management Plan (Cooper/CH₂M Hill/CES, 1982) addresses the water quality impacts and management for Washoe

County south of Huffaker Hills. When fully implemented, the historical water quality and quantity at the Huffaker Narrows will be maintained.

Other Areas

In topographically closed or semi-closed basins, such as Lemmon Valley and Spanish Springs Valley, wastewater disposal practices impact the available groundwater resources. Secondary recharge from wastewater disposal can be a significant portion of the available water supply to a groundwater basin. Secondary recharge from individual septic systems can cause serious degradation of groundwater quality. If secondary recharge is prevented by the export or evaporation of wastewater, the demand for water must be met by primary recharge or groundwater mining. This situation can worsen the overdraft of a groundwater basin.

Wastewater disposal for the Washoe County portion of the Tahoe basin, with the exception of a few homes in the Incline Lake area, is provided through the Incline Village General Improvement District (IVGID). Effluent is treated at the IVGID Treatment Plant and then transported by pipeline out of the Tahoe basin to a 900-acre wetlands enhancement project in the Carson Valley.

To maintain drinking water quality within acceptable standards, as much as one acre-foot (325,850 gallons) of fresh water may be required to dilute the annual effluent flow from a residential septic tank. In groundwater basins with limited storage or low recharge rates, the effluent from residential septic systems can cause significant water quality degradation.

The economics of facilities construction must be considered when the water quality impacts of two or more wastewater disposal alternatives are similar. The Nevada Administrative Code for subdivisions requires sewer extension at certain residential densities. An approximate rule of thumb is each residential equivalent in a development can justify the construction of approximately 100 feet of sewer main or interceptor. This justification is based upon the break-even point between the construction of individual sewage disposal system (ISDS) facilities and hookup fees to a regional or subregional treatment plant. Actual cost and treatment capacity must be considered in making this decision. In no case, however, will septic systems be utilized in areas where a density of one unit per acre or greater is planned.

Policies and Action Programs

- PSF.2.1 Coordinate all wastewater management facilities in Washoe County.
 - PSF.2.1.1 Washoe County, acting as the Regional Water Resource Management Agency, shall have planning, design, construction, financing, plus operation and maintenance responsibility for all wastewater treatment and collection facilities in Washoe County.
- PSF.2.2 Construct sewage treatment facilities concurrent with development of land uses generating demand for those facilities.
 - PSF.2.2.1 All planned urban and suburban development (with residential densities of one or more units per acre) shall be included in the service area of a centralized/community sewage treatment facility. Sewage treatment facility service areas shall not overlap. Centralized/community sewage treatment facilities shall not be provided to areas planned for rural or rural reserve development (density less than one unit per acre).
 - PSF.2.2.2 The provision of sewage treatment services shall not be used to alter the adopted pattern or timing of development.
 - PSF.2.2.3 Washoe County, acting as the Regional Water Resource Management Agency, will ensure that all capital improvements programming, funding, and construction for sewage treatment facilities shall be

- consistent with the goals, objectives and policies contained in the Tahoe Regional Plan, the Truckee Meadows Regional Plan, the Washoe County Master Plan, and the appropriate service and facility plans.
- PSF.2.2.4 Washoe County, acting as the Regional Water Resource Management Agency, shall establish programs for the provision of centralized service to those areas with failing septic tanks or other service inadequate to meet existing needs, and areas with potential to pollute the water supply if developed on septic systems (such as Verdi, Mogul, and the east shore of Washoe Lake).
- PSF.2.2.5 Washoe County will ensure that sewage treatment systems are funded separately from other general government operations. General government funds, however, may be used to secure revenue bonds for sewage treatment facilities.
- PSF.2.2.6 The Washoe County Department of Community Development, in conjunction with the Washoe County Utility Services Division, will review all projects to ensure that sewer costs directly attributable to new development are paid for by the new development. Costs of service shall include the cost of extending service lines or facilities to the site.
- PSF.2.2.7 New development proposing lot sizes of one acre or smaller shall not be approved if it proposes to use on-site sewage treatment and disposal systems, unless it qualifies for one of the following exceptions:
- a. The development meets and maintains its status as a Pipeline Project as defined by the policies in Chapter 30 of the Truckee Meadows Regional Plan.
 - b. The development combines or reconfigures existing parcels which have the legal right to use individual on-site sewage treatment systems, and the new or recombined lots are equal to or larger than the existing parcels.
 - c. The development is designated for Medium Density Suburban or less dense development by the appropriate Washoe County Area Plan Master Plan map, or is properly zoned for such development and is consistent with the zoning consistency program and ordinances of Washoe County; and either:
 - (1a) The area is scheduled to be sewered within the next five years as shown in the Capital Improvements Program; and
 - (1b) The development is served by a community water system and will have minimum 1/3 acre lot sizes; and
 - (1c) The project includes dry sewer lines and is designed for future connection to a community sewer system; and
 - (1d) The conditions of project approval require the creation of a financing mechanism, such as an improvement district for sewers, so that lot or homeowners will make regular payments toward future sewer connection and construction costs; and
 - (1e) The conditions of project approval require a recorded waiver of protest to the formation of a sewer

improvement district and to the payment of sewer financing charges by the original and subsequent purchasers;

or

- (2a) The development application is accepted by the Washoe County Department of Community Development prior to July 2, 1993; and
- (2b) The area is not scheduled to be sewered within the next five years by the applicable Facility Plan or Capital Improvements Program; and
- (2c) The development is served by a community water system and will have minimum 1/2 acre lot sizes; and
- (2d) The project is not located within a Septic Constraint Area as designated by the District Board of Health; and
- (2e) The project is designed for future connection to the community sewer system; and
- (2f) The conditions of project approval require a recorded waiver of protest to the formation of a sewer improvement district and to the payment of sewer financing charges by the original and subsequent purchasers; and
- (2g) The conditions of project approval require that the CC&Rs for the homeowners association will provide for the payment of the sewer related distribution costs within the project.

PSF.2.3 Design and construct sewage treatment facilities which optimize their impacts on the environment and on surrounding development.

PSF.2.3.1 Washoe County, acting as the Regional Water Resource Management Agency, will support efforts to eliminate effluent discharge from the Reno-Sparks Wastewater Treatment Facility directly into the Truckee River and to improve the quality of the effluent that is discharged.

PSF.2.3.2 Washoe County, acting as the Regional Water Resource Management Agency, will support efforts to reuse effluent for irrigation, wetlands production, groundwater recharge, or other activities consistent with adopted public health and water quality objectives.

PSF.2.3.3 Washoe County, as the Regional Water Resource Management Agency, shall ensure that discharge and disposal of effluent and sludge from sewage treatment facilities do not violate applicable discharge and water quality standards.

PSF.2.3.4 Washoe County shall support efforts to reuse sludge in the most environmentally advantageous way.

PSF.2.4 Ensure that a safe and effective wastewater treatment system is provided.

PSF.2.4.1 All new projects may be required to connect to a subregional or regional wastewater treatment plant, to provide dry sewers in anticipation of being connected to such a facility, or to design the project so that the residences can be served by sewers installed in the public rights-of-way.

- PSF.2.4.2 Encourage the Washoe County District Health Department to inspect septic systems for proper functioning whenever a home is sold in order to provide assurance of water quality nondegradation.
- PSF.2.5 Ensure future and proposed development is consistent with wastewater disposal facilities and the ability of the environment to assimilate effluent without violating applicable water quality standards.
- PSF.2.6 Establish a water quality monitoring program in topographically closed basins to determine the rate and extent of contamination that may result from wastewater disposal practices.
- PSF.2.6.1 Washoe County, acting as the Regional Water Resource Management Agency and in cooperation with the State Engineer and the Nevada Division of Environmental Protection, will establish a groundwater quantity and quality monitoring program in each basin.
- PSF.2.7 Require that potential water quality impacts be addressed in a mitigation plan before approval is given by the Washoe County Board of County Commissioners for the storage or disposal of hazardous substances.

Runoff Management

Flooding, water pollution, and a highly variable water supply result from unmanaged runoff. The control and management of runoff is a vital component of the management of the County's water resources. As mentioned previously, Washoe County will be assuming the responsibility for regional water resource management. This will include flood control and stormwater management.

Flooding

Washoe County has a long history of flooding. Early records indicate periods of high water and flooding on the Truckee River in 1861, 1862, 1867 and 1890. Since 1900, significant damage has been caused by Truckee River floods in 1907, 1909, 1928, 1937, 1950, 1955, 1963 and 1986. Although the frequency and magnitude of flooding have been reduced through the construction of reservoirs and channel modifications, development in flood-prone areas has increased the potential property damage from flooding. Areas formerly vacant or in agricultural use are being converted to commercial, residential and industrial uses. The floods of 1950, 1955, 1963 and 1986 resulted in the inundation of 3,800 to 6,000 acres of agricultural lands at a depth of up to six feet. These floods also inundated several blocks of commercial and industrial area in downtown Reno and Sparks.

Tributaries to the Truckee River and nontributary streams in other basins are subject to flooding. Rapid melting of mountain snowpack and thunderstorms are the primary causes of flooding along tributary streams in the region, whereas flooding on the mainstream of the river is caused by winter rainfall.

The average annual property damage caused by flooding in the Truckee Meadows, based upon 1982 conditions, has been estimated at \$21,700,000⁷. Table 4 on the following page illustrates the effect of several recent floods if they were to occur in 1982. The resulting damage in 1990 is estimated to be from 14 to 150 times as great, in terms of dollars, as the damage that occurred in the actual floods. Increased development in flood-prone areas and inflation result in the increase in damage.

Through Reno, the Truckee River channel can carry approximately 14,000 cubic feet per second (cfs). This capacity is exceeded by flows having an average frequency of occurrence of once in about 60 years⁸. Below the U.S. Highway 395 (I-580) bridge, the capacity is approximately 6,000 to 7,000 cfs. The capacity of this segment is exceeded about once in 12 years, on the average⁹.

Washoe County is currently funding a Washoe County Flood Control Master Plan. This master plan will address flood control on a countywide basis and will recommend strategies and programs to help control future flooding in Washoe County. It will be integrated into the other planning efforts being carried out under the auspices of the Regional Water Resource Management Agency.

⁷ U.S. Army Corps of Engineers, Draft Feasibility Report and Draft Environmental Impact Statement, Truckee Meadows (Reno-Sparks Metropolitan Area), Nevada (U.S. Army Corps of Engineers, Sacramento District, 1983)

⁸ Ibid.

⁹ Ibid.

Urban Runoff

The Washoe County 208 Water Quality Management Plan adopted by Reno, Sparks and Washoe County in 1978, and subsequently certified by the State of Nevada and approved by the U.S. Environmental Protection Agency, identified urban stormwater runoff as the second highest priority pollution source to the Truckee River in Nevada.

Table 4
Estimated Property Loss from Past Floods

Date of Flood	(cfs)	Exceedence Intervals⁽¹⁾ (Years)	Estimated Damage (Dollars)	
			At Time of Flood	Recurrence in 1982⁽²⁾
November 1950	19,900	114	2,470,000	166,000,000
December 1955	20,800	125	1,680,000	258,000,000
February 1963	18,400	100	1,680,000	116,000,000
December 1964	11,300	40	1,320,000	18,500,000

Notes: (1) The Exceedence Intervals were based on the peak flow frequency curve at the Reno gage.

(2) Estimated Damages based upon damage-flow relationships.

Source: U.S. Army Corps of Engineers, 1983.

Urban Stormwater Impacts on the Truckee River

The significance of stormwater discharges is best expressed by comparing them with other sources of man-influenced pollution discharged to the Truckee River and assessing their impacts on the region's receiving waters. In 1983, a consultant hired by Washoe County, Cooper et al, found that the regional annual loadings of suspended solids and chemical oxygen demand will remain approximately equal to the present annual loadings (see Table 5 on the following page for a summary of the findings). However, urban runoff will become the major source of these constituents. This change will alter the present continuous summer loading and result in intermittent loading of the river in the winter.

For phosphorus and nitrogen, there will be substantial decreases in the annual loadings. These decreases, however, will be primarily due to removals of phosphorus and nitrogen implemented at the Reno-Sparks Wastewater Treatment Facility.

Of the phosphorus and nitrogen that will continue to be discharged to the Truckee River, the Reno-Sparks Wastewater Treatment Facility will still be the major source. The urban stormwater runoff loading increases will generally balance the agricultural return flow decreases with a shift to winter, intermittent/transient loadings. The urban stormwater runoff loading will assume a larger portion of the remaining phosphorus loadings.

The total metal discharge to the receiving waters will increase in proportion to the growth of urbanized lands and urban stormwater runoff. Most of the new sources of urban runoff will be upstream of the water supply diversions (e.g. the Idlewild and Glendale Treatment Plants), creating the need for additional water supply treatment, unless controlled by detention and infiltration.

Table 5
Wasteload to the Truckee River in Nevada above Vista in 1983

Constituent	Total Load lbs/yr	Percent of Load by Source		
		Urban Runoff	ASG Returns	Wastewater (RSWTF)
Present:				
Suspended Solids	6,800,000	29	53	18
COD	7,250,000	23	27	50
Total Phosphorus	380,000	2	6	92
Total Nitrogen	1,500,000	1	12	87
Total Lead	1,500	100	0	0
Future:				
Suspended Solids	7,700,000	73	19	8
COD	7,300,000	63	10	27
Total Phosphorus	76,000	23	14	64
Total Nitrogen	732,000	5	13	82
Total Lead	4,500	100	0	0

Notes: ASG is the combined loading from agricultural return flows, septic tank/leachfield systems, and geothermal discharge. COD = Chemical Oxygen Demand.

Source: Washoe County Urban Stormwater Management Program, 1983.

Water Supply

Aside from the water quality benefits from the management of runoff, the quantity of water supply is directly affected by runoff management. The water supply for the Truckee Meadows is highly dependent upon the Truckee River system. Control of runoff in the Truckee River system directly affects the quantity of water available for municipal and industrial uses.

Water flow within the Truckee River system is not constant from year to year. The 1900-82 average (mean) annual flow is about 573,000 acre feet. This average flow is attained or exceeded only about 40 percent of the time. Extremes of record include the low flow of 208,200 acre feet during the 1934 water year to a high of 1,475,300 acre feet in the 1907 water year.

Reservoirs on the Truckee River and its tributaries partially regulate the flow of the river. The usable capacity of the reservoirs for all purposes is listed in Table 6 on the following page. Much of the water flow (as compared to storage capacity) in the system originates downstream of Lake Tahoe. The mean discharge from Lake Tahoe represents about 31 percent of the mean flow of the Truckee River at Farad. The large usable capacity of Lake Tahoe is limited to regulating only about 31 percent of the available water supply.

With the development of additional flood control structures in the Truckee Meadows, the management of the reservoir system can be modified to provide more water supply and less flood protection. If sufficient flood control measures are taken, additional water storage may be available. Legal and institutional changes in court decrees, water supply and repayment contracts, and flood control regulations would be required in order to benefit from the available storage capacity. The coordination of runoff management with water supply management will provide for a reduction of potential flood losses, the preservation of water quality, and an increase in the available water supply.

Table 6
Upper Truckee River Basin Dams and Reservoirs

Facility	Total Usable Capacity, AF
Lake Tahoe	744,600
Donner Lake	9,500
Independence Lake	17,500
Prosser Reservoir	28,640
Martis Reservoir	20,400
Stampede Reservoir	221,490
Boca Reservoir	40,870

Source: [USGS, Water-Data Report NV-83-1, \(1984\).](#)

Policies and Action Programs

- PSF.3.1 Prepare a flood control master plan for Washoe County.
 - PSF.3.1.1 Washoe County, acting as the Regional Water Resource Management Agency, shall prepare a flood control master plan for Washoe County which satisfies all flood control goals, objectives, and policies contained in the Tahoe Regional Plan, the Truckee Meadows Regional Plan, and Washoe County Master Plan; and that attains and maintains federal, state and local flood control standards.
 - PSF.3.1.2 Washoe County, as the Regional Water Resource Management Agency, shall evaluate the potential water quality benefits from increased treatment, detention and infiltration of urban runoff. Programs which achieve these benefits should be incorporated in the Washoe County Capital Improvement Program for flood control purposes.
- PSF.3.2 Coordinate all runoff management facilities in Washoe County.
 - PSF.3.2.1 Washoe County, acting as the Regional Water Resource Management Agency, shall have planning, design, construction, financing, plus operation and maintenance responsibility for all flood control and storm drainage facilities in Washoe County.
 - PSF.3.2.2 Washoe County, acting as the Regional Water Resource Planning Agency and wherever possible, will design runoff management facilities and improvements to serve other regional objectives. These objectives include, but are not limited to, the preservation of natural areas, the provision of accessible open space corridors, creation of bike/pedestrian paths, protection of riparian areas, and enhancement of water quality.
- PSF.3.3 Construct flood control projects with benefits that exceed total costs when the costs can be distributed on an equitable basis to those receiving benefit from the project.
- PSF.3.4 Encourage the revision of the operating manual for the reservoirs on the Truckee River, if flood control works are constructed to mitigate flooding in the Truckee Meadows, to allow for more municipal and industrial water storage.
- PSF.3.5 Encourage artificial recharge of excess or non-beneficial runoff in closed basins.
- PSF.3.6 Encourage both the recharge and water quality benefits from the detention and infiltration of urban runoff.

- PSF.3.6.1 Washoe County will coordinate with other appropriate jurisdictions to require the detention and infiltration of the additional runoff generated by urbanization.
- PSF.3.7 Develop regulations for the amount of runoff discharge, point of runoff discharge, and size and maintenance of drainage structures and facilities.
- PSF.3.7.1 Washoe County shall adopt design and construction standards to protect water quality, minimize erosion and sedimentation, and preserve or improve natural drainage, recharge, habitat, and aesthetic functions for agriculture and new development adjacent to permanent lakes, rivers, streams and playas. Standards shall address runoff flow rates and the type, quality and quantity of particulates carried by runoff. Urban stormwater runoff should meet standards in the NPDES permit. The standards should encourage the use of best management practices. Runoff should be used to recharge groundwater resources where the runoff meets quality standards equal to or higher than that of the groundwater being recharged by the runoff. All runoff shall be periodically tested for conformance with the quality standards.
- PSF.3.7.2 The Washoe County Development Code shall contain development regulations which conform to the Regional Flood Control Master Plan and FEMA regulations in regard to the amount of discharge, point of discharge, and size and maintenance requirements of drainage structures and facilities.
- PSF.3.8 Control stormwater runoff from new developments to:
- A. **Prevent siltation and pollution of lakes, rivers and streams.**
 - B. **Prevent erosion, flooding and other surface water damage.**
 - C. **Prevent increases in downstream peak flows.**
 - D. **Preserve and enhance the region's water resources.**
- PSF.3.8.1 The Washoe County Department of Community Development, the Washoe County District Health Department, and the Utility Services Division will work with the appropriate local entities to:
- a. Prepare, adopt and update, as necessary, a local handbook of best management practices. The local handbook must be consistent with the State Handbook of Best Management Practices.
 - b. Develop and adopt stormwater management ordinances that are consistent with the local handbook of best management practices.
 - c. Comply with federal regulations for urban stormwater discharge.
 - d. Develop and distribute a homeowner's handbook on proper use and disposal of herbicides, pesticides, fertilizers and toxic materials.
- PSF.3.8.2 The Washoe County Department of Community Development will ensure that new development provides on-site detention and drainage facilities as needed to make sure that development of the site does not adversely impact downstream properties and is consistent with adopted wetlands protection policies.

- PSF.3.9 Encourage the coordination of floodplain management strategies.
- PSF.3.9.1 Washoe County, acting as the Regional Water Resource Management Agency, will coordinate floodplain management activities including floodplain review and mapping, ordinance development and related activities.
- PSF.3.9.2 Washoe County, acting as the Regional Water Resource Management Agency, will undertake detailed analysis to develop a floodplain management program consistent with Federal Emergency Management Agency standards. The floodplain management program will include, but not be limited to, the following:
- a. An active long-term program to adequately delineate 100-year floodplains and flood hazard areas.
 - b. Separate management programs for the Truckee Meadows area and for other drainages.
 - c. Plans for reevaluating areas defined as floodplains because of changes that are a result of urbanization or natural forces.

Public Safety

Public safety is one of the most important services provided to citizens by government. In many instances, public safety personnel are a government's most visible employees. Public safety personnel are usually first to respond to help citizens that are threatened by emergencies such as fire, disaster, injury or criminal activity whether caused by man or nature. As the population of Washoe County continues to increase, there will be a corresponding need for additional fire, police, constable, and justice court personnel. In order to meet these needs most efficiently, development of the facilities which house and support them should be coordinated with the growth of the County.

The Public Safety section presents the existing conditions and trends concerning public safety services and facilities. These conditions and trends form the basis for the projection of both facility and personnel needs through the year 2007. As defined in the section, public safety services include fire and police protection, and the services of the justice courts and constables. This section is not intended to serve as a detailed facility or staffing plan, but rather to provide general guidelines for the County as a whole.

In Washoe County, fire and police protection services are provided to some extent by virtually every government jurisdiction. The services of the justices' courts and constables are provided by Washoe County. The policies and action programs included in this section serve as a guide to help insure that these public safety services and their associated facilities continue to meet the public's needs through the year 2007.

Fire Protection

Response to fire, medical, hazardous materials emergencies and natural disasters are among the most basic and valuable services provided to citizens by government. Less obvious, but equally important, are fire prevention, public fire safety education and mitigation efforts aimed at reducing the impact of fire when it does occur. These services are provided in Washoe County by various federal, state and local agencies. Mutual aid agreements, combined with a continuing general desire for inter-agency cooperation, enhance the level of emergency response throughout Washoe County by utilizing resources on a countywide basis. Continuing movement to suburban and rural areas by residents has presented a new dimension of the fire protection problem since many structures are exposed and threatened by uncontrolled wildland fires.

Fire Department Emergency Response

The primary categories of fire department emergency response in Washoe County are fire, hazardous material incidents, and medical emergencies.

The threat of fire exists in all communities and in all ranges of socioeconomic conditions within Washoe County. The types of fires that threaten life and property can be categorized into structural, transportation, wildland and outside fires. Structural fires can occur in residential, commercial, industrial/manufacturing buildings and their associated structures and facilities. These structures exist in urban, suburban and rural communities in Washoe County. Wildland fires have the potential to impact each type of community due in large part to the area's topography and the nature of the flammable vegetative cover. Outside fires can range from trash and rubbish to outdoor storage of combustible materials.

Transportation accidents with fire and/or hazardous material releases are a very real potential in Washoe County. Interstate highways, arterials and rail lines transverse urban, suburban and rural communities within the County.

Emergency medical incidents occur any place that people live, work or travel. Due to the long distances from hospitals to outlying areas in the County, the responsibility for providing initial emergency medical services frequently falls to the fire department. As the primary basic life support providers in Washoe County, the proximity of fire units to the emergency is often the difference between life and serious injury or death.

Fire Protection Response Planning

Planning for fire protection involves logical placement of fire station facilities to minimize response time to the maximum number of structures in the community and the provision of a community water supply for fire fighting purposes. The ability of a fire protection agency to suppress a fire and to provide other emergency services at the scene depends substantially on the response time of the fire units dispatched.

It has been determined that the first five to eight minutes of a free burning interior structural fire are the most crucial in any attempt to gain control and eventually extinguish a fire. It is during this period, in most structural fires, that the temperature inside the burning building rises rapidly to a condition known as "flash-over"¹⁰. Once this has occurred, the fire can spread very rapidly, greatly increasing the danger to occupants and making survival as well as extinguishment more difficult.

When fire personnel are able to begin efforts towards extinguishing the fire before the "flash-over" point is reached, their final efforts are much more successful and the chance of survival of trapped occupants is much better. The "cost" of the fire is greatly reduced both in terms of financial loss and personnel and equipment costs associated with the fire. The goal of the fire protection agency, therefore, is to be able to respond to a fire, deploy equipment and personnel, and apply extinguishing agent before the "flash-over" point is reached. Figure 3, on page 34, illustrates the temperature increase and development of hazardous conditions during the early minutes of an interior fire. Table 7 on the following page shows the cycle of a fire, from ignition to extinguishment, as it relates to fire protection planning activities.

Insurance Rates and Fire Protection

One measure of a fire protection agency's ability to prevent, control and extinguish fires can be determined from the rating given to the agency by the Insurance Services Office (ISO). This organization classifies fire protection agencies throughout the United States for the purpose of establishing the basis for fire insurance rates. The fire suppression rating is based on the analysis of 52 factors in three groups: water supply, fire department, and fire service communications. The overall rating is a composite of the ratings for each of these three groups on a scale from one (best) to 10 (worst). The 52 factors analyzed in the fire suppression rating schedule are listed in Appendix B. Table 8 on page 35 shows the relative values assigned to the three major groups analyzed by the ISO.

In a recent ISO grading of a fire protection district within Washoe County, the insurance industry was advised of the following criteria:

¹⁰ "Flash-over" is a condition encountered when the combustible contents and interior surfaces in an enclosed area are heated to a point where they ignite simultaneously.

Table 7
The Cycle of a Fire (Ignition to Extinguishment)
and its Relationship to Fire Protection Planning Activities

Fire Cycle	Mitigation Measures	Necessary Community Infrastructure
Pre-fire activity	Application of Building Code and Fire Code. Public education for fire safety.	Fire Prevention Bureau and Building and Safety Division with appropriate facilities.
Fire ignites	Prevention reduces number of ignitions.	Fire Prevention Bureau.
Fire discovered or detected	Smoke detectors and fire sprinklers provide early detection.	Ordinances and enforcement.
Fire reported	Supervised alarm system, fire sprinkler systems and enhanced 911 telephone facilities speed reporting	Ordinances and State Law. Central answering point for 911 telephone system. Enhanced 911 telephone system with ALI and ANI.
Response units notified	Computer assisted dispatch and emergency response mapping produced with the County GIS enhances dispatch process.	Dispatch/Communications Center.
Units respond to fire	A countywide approach, regardless of jurisdictional boundary lines, enhances the response of the closest units.	Well placed fire stations and an efficient road system. Traffic signals activated by the fire department.
Units arrive at scene	Appropriate access to all buildings and structures is provided. Fire hydrants are well located.	
Fire extinguishing activity occurs	Knowledge, training, tactics, strategy and command functions combine to provide coordination of fire control efforts by fire department.	Water distribution system for fire protection and/or mobile water supply.
Fire extinguished	Ignition source is determined.	

Note: Abbreviations are as follows: ALI = Automatic Location Identification, ANI = Automatic Number Identification, GIS = Geographic Information System.

Source: Truckee Meadows Fire Protection District.

Protection Class 5 - Properties requiring a fire flow of 3,500 GPM (gallons per minute) or less, located five road miles or less from a responding fire station and hydrants within 1,000 feet.

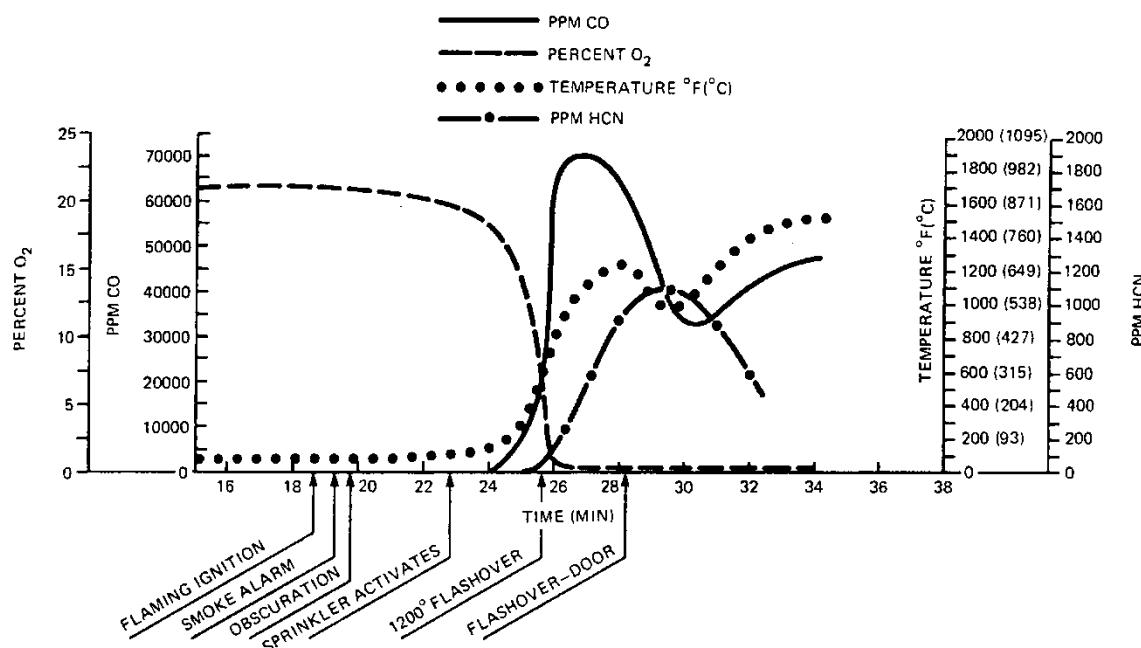
Protection Class 8 - Properties (residences) located up to five road miles from a responding fire station with an acceptable mobile water supply and hydrants more than 1,000 feet away. Credit may be extended up to eight road miles in certain cases.

Protection Class 9 - Class-rated properties (other than residences) requiring a fire flow of 3,500 GPM or less, located five road miles or less from a responding fire station and hydrants more than 1,000 feet away. (Class 9 applies to any dwelling located over five road miles but less than 10 road miles from a responding fire station.)

Protection Class 10 - Applies to all other properties. Properties requiring a fire flow greater than 3,500 GPM are individually evaluated, as each building is reviewed, and the classification may vary. Properties in excess of 10 road miles from a responding fire station receive no credit for fire protection.

Inquiries to selected insurance companies revealed that some companies will provide reduced rates for residential properties within five miles of a manned fire station and within 1,000 feet of a fire hydrant.

Figure 3
Temperature Increase and Hazardous Conditions Development



Note: Composite illustration of events and development of hazardous conditions at a 5.5 foot level in the burn room during fully furnished room fires.

Source: National Fire Protection Handbook, 16th Edition, (NFPA, 1986).

Table 8
**ISO Fire Suppression Rating Schedule
 Major Groups and Maximum Credits**

Major Group	Maximum Credits
Water Supply	40
Fire Department	50
Fire Service Communications	10
Totals	100

Source: National Fire Protection Association.

The ISO ratings have a direct affect on the public since they form the basis for fire insurance rates. Table 9 lists the fire protection districts in Washoe County and their respective ISO rating.

Table 9
**ISO Ratings for Fire Protection Agencies/Areas
 in Washoe County, 1990**

Fire Protection District/Area	ISO Rating
Gerlach with hydrants	6
North Lake Tahoe	3
SFPD with hydrants	6
SFPD without hydrants	8
TMFPD with hydrants	5
TMFPD without hydrants	8
TMFPD, Wadsworth	9
Warm Springs	9

Sources: Truckee Meadows Fire Protection District, North Lake Tahoe Fire Protection District, and Sierra Fire Protection District.

Fire Protection Response Criteria

The "Fire Suppression Rating Schedule" of 1980, published by the Insurance Services Office, represented a change from the previous specification oriented "Grading Schedule" to a performance based schedule. Some credit is available for water delivered to the fire scene regardless of the means of delivery. The new fire suppression rating schedule uses 1.5 mile response distances as a criteria for engine company response to fires. Appendix B lists the factors considered by the "Fire Suppression Rating Schedule".

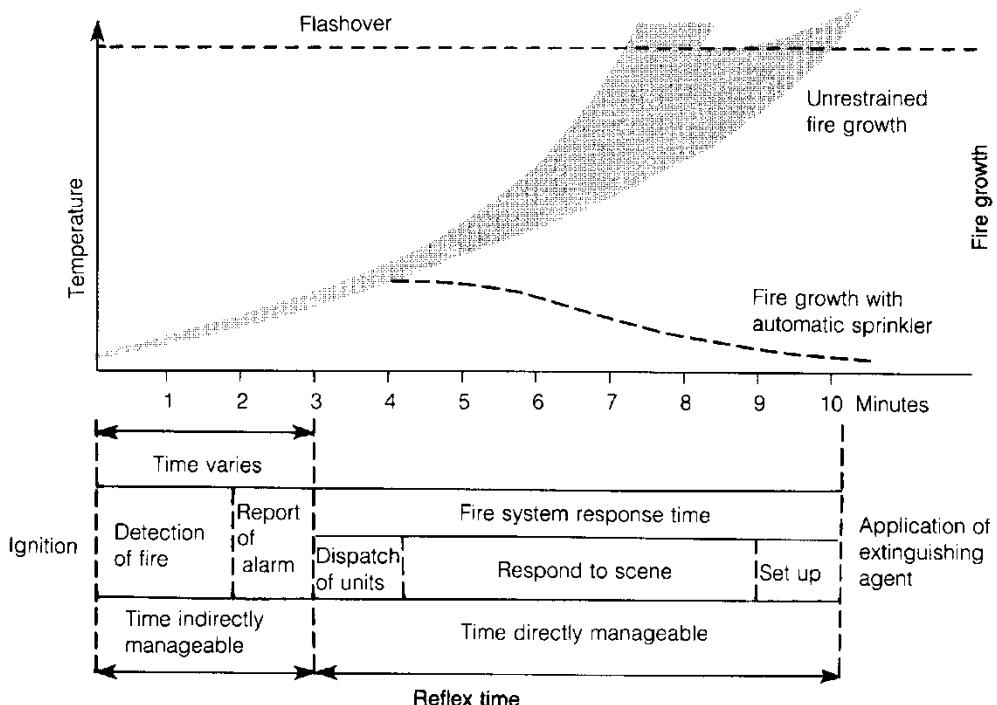
The 16th Edition of the National Fire Protection Handbook makes the following statements about response standards:

As already described, time is another critical factor in the evaluation of public fire protection. It is generally considered that the first arriving piece of apparatus should be at the emergency scene within five minutes of the sounding of the alarm, since additional minutes are needed to size up the situation, deploy hose lines, initiate search and rescue, etc.

To be minimally effective in controlling a fire, the initial responding apparatus must reach the emergency scene within approximately 10 minutes of the sounding of the alarm.

Figure 4 shows fire growth versus reflex time and illustrates this concept. Table 10 lists the minimum fire protection and emergency medical services response standards used for condition assessment and analysis in Washoe County.

Figure 4
Fire Growth Versus Reflex Time



Source: [Managing Fire Services](#), Second Edition, (International City Management Association, 1988).

Table 10
Minimum Fire Protection and
Emergency Medical Services Response Standards

Residential Land Use Designation	Response Time
Urban	5 minutes or less
Suburban	10 minutes or less
Rural	20 minutes or less

Source: Washoe County Department of Community Development.

Fire Apparatus Manning

Another critical factor in providing fire protection is fire personnel. One structural interior attack line (1- $\frac{1}{2}$ to 1- $\frac{3}{4}$ inch hose) requires a minimum of two personnel on the hose line. Accepted safety practices require a third person outside the structure ready to affect rescue. Based on National Fire Protection Association (NFPA) figures, the efficiency of an engine company decreases by approximately 35 percent for every person as engine company manning is reduced from five firefighters to three firefighters per company. As the number of personnel per engine decreases, the number of engines assigned to each fire must increase in order to provide adequate personnel to control and extinguish a fire. Table 11 shows the fire personnel/population ratios and firefighters/engine company for the fire protection agencies in Washoe County.

Table 11
**1990 Fire Personnel/Population Ratios and
Fire Fighters/Engine Company by Agency**

Agency	Population	Firefighters	Firefighters/1,000 Population	Firefighters/Engine Company
TMFPD	57,298	75	1.45	3
BLM	NA	20	NA	3
NLTFPD	7,700	46	5.97	3-4
SFPD	6,798	19	2.79	2

Notes: Population figures are from Washoe County adopted area plans. The BLM is responsible for wildland fires—population figures not available. Population data for SFPD are approximate only. Figures have been rounded. Data represent paid line personnel.

Sources: Truckee Meadows Fire Protection District and Washoe County Department of Community Development.

Countywide Use of Fire Protection Resources

Within Washoe County, there are several fire protection agencies with contiguous boundaries. Each agency has historically attempted to meet its own initial response needs. Fire stations should be located to adequately protect all property within each respective jurisdiction. This task is made more difficult and less economical when jurisdictional boundaries are irregularly shaped, illogical or subject to change. Response confusion and duplication of effort between agencies can be reduced or eliminated when simplified boundaries are established or boundaries are eliminated for purposes of fire protection.

Fire protection is generally more efficient when fire stations are utilized throughout an area based on need and natural service radius. Response conflicts between agencies can be lessened when more easily recognizable, simplified boundaries are maintained. Duplication of services and functions can be minimized through improving district boundaries and the communication of proposed changes to those boundaries.

Fire Prevention Activities

The prevention of fire is usually the primary goal of any fire department. Fire prevention is graded as an important component in the fire defenses of a community. Fire prevention refers primarily to measures directed toward avoiding the inception of fire and reducing fire related losses. Among these measures would be included: fire safety education, fire prevention inspection, fire code enforcement, investigation of fires to determine causes, and investigation of suspicious fires.

The enforcement of the municipal fire codes comes under the jurisdiction of the fire department and is one of the major responsibilities of the fire prevention bureau. Although fire safety inspection is the key

function in code enforcement, other forms of enforcement endeavors have proven effective in attaining the objectives of conformance to fire safety codes and regulations. Among these are publicity efforts through newspaper, radio, and television coverage to bring the issues of code enactment and enforcement to the attention of the public .

One way through which the fire prevention bureau can effectively approach enforcement of codes is participation in plan review, in which all plans and specifications for new construction are routed to fire prevention agencies to be checked for conformance with fire codes. Inspection follow-up is essential to assure that fire safety requirements imposed at this stage are carried out in new construction.

Conditions and Trends

Truckee Meadows Fire Protection District (TMFPD)

Except where served by another local fire protection agency, the County area south of the Township 22 North line is provided emergency services by the Truckee Meadows Fire Protection District in the following areas: fire, emergency medical services to EMT-D level, hazardous material emergency response and the enforcement of Washoe County fire ordinances. The TMFPD also provides structural fire protection, private wildland fire protection, enforcement of Washoe County fire ordinances and is the managing administrator for the coordination of all fire, EMS, and HAZMAT issues in northern Washoe County.

Currently, the agency operates six paid stations with a full-time staff of 91. Of this total, 75 are fire fighting personnel. The TMFPD paid stations are manned by a total of 25 fire personnel each day. In addition, there are 13 volunteer stations, and one joint paid/volunteer station, throughout Washoe County manned by approximately 250 volunteers. Table 12 on the following page lists the TMFPD stations, their locations, and sizes.

TMFPD currently has plans for new fire station sites in Southwest Truckee Meadows, near the Mt. Rose Highway/Highway 395 intersection, and in the proposed Double Diamond development. Any other future stations will be based on future development and fiscal constraints.

North Lake Tahoe Fire Protection District (NLTFPD)

Fire protection services are provided to the Washoe County residents of the Lake Tahoe basin by the North Lake Tahoe Fire Protection District. This agency operates three stations with a full-time staff of 50, of which 46 are line personnel.

Station 1 (also NLTFPD headquarters) is located at the corner of Tanager Street and Oriole Way and is 11,000 square feet in size. Station 2 is located near the intersection of Lake View Avenue and Reservoir Drive and has 2,000 square feet of space. Station 3 is located at the intersection of State Route 431 and Country Club Drive and is 2,562 square feet in size.

No additional NLTFPD stations are currently planned, but maintaining present service levels through the year 2007 may require additional facilities and staff.

Table 12
Truckee Meadows Fire Protection District
Station Location and Square Footage

Station	Location	Sq. Ft.	Status
2	100 Woodland Avenue	2,100	Paid
3	10575 Silver Lake Boulevard	2,800	Paid
4	12300 Old Virginia Road	1,800	Paid
5	5399 Sun Valley Drive	2,800	Paid
6	1240 East Lake Boulevard	2,800	Paid
7	500 Rockwell Boulevard (Spanish Springs)	4,000	Paid/Volunteer
20	3405 Reno Park Boulevard (Cold Springs)	2,100	Volunteer
21	11525 Red Rock Road	1,000	Volunteer
23	130 Nectar Street (Lemmon Valley)	2,100	Volunteer
25	Middle Street, Wadsworth	3,500	Volunteer
26	3255 West Hidden Valley Drive	750	Volunteer
27-1	Lakeshore Boulevard	300	Volunteer
28	245 Bellevue Road (Washoe Valley)	1,000	Volunteer
29	6015 Ironwood Road (Warm Springs)	1,000	Volunteer
37	Highway 395 and Pagni Lane (Pleasant Valley)	300	Volunteer
40	16180 Red Rock (Rancho Haven)	240	Volunteer
41	Sutcliff(Pyramid Lake)	240	Volunteer
42	Gerlach	750	Volunteer

Note: Stations 40, 41 and 42 are volunteer stations administered by TMFPD for Washoe County.

Source: Truckee Meadows Fire Protection District.

Nevada Division of Forestry, Sierra Fire Protection District (SFPD)

The Nevada Division of Forestry provides fire protection services for rural and suburban areas within its district of Washoe County by law and agreement. Under a closest forces contract with the U.S. Forest Service, the Nevada Division of Forestry provides response to fires which break out within the National Forest areas of the County.

The Nevada Division of Forestry, Sierra Fire Protection District (SFPD) operates four paid stations in Washoe County with 30 full-time personnel, 19 of which are line personnel. In addition, the agency operates five volunteer stations. Table 13 on the following page lists the Sierra Fire Protection District stations and their locations. The two new planned SFPD stations are: at Galena Resort (paid) and at Upper Mogul in Verdi (volunteer). Additional facilities and staff may be needed through the year 2007.

Bureau of Land Management (BLM)

The Bureau of Land Management provides fire protection services for federal public lands within BLM jurisdiction. Within Washoe County, the BLM provides fire protection during the wildfire season. The BLM operates two stations on a cooperative basis with the Truckee Meadows Fire Protection District. These are the East Lake Station (TMFPD Station 6) and the Desert Springs Station (TMFPD Station 7). Currently, the BLM mans these stations with 13 full-time seasonal staff, 12 of which are line personnel.

Table 13
Sierra Fire Protection District
Station Location and Status

Station	Location	Sq. Ft.	Status
Bowers Mansion	Old Highway 395	4,300	Paid
Galena #1	Highway 431	4,200	Paid
Galena #2	Highway 431	1,800	Paid
Verdi	Garson Road	1,600	Paid
Anderson Acres	1110 Longview	1,200	Volunteer
Callahan	Callahan Ranch Road	N/A	Volunteer
Cold Springs	17505 Highway 395	2,000	Volunteer
Galena #4	Whites Creek Road	N/A	Volunteer
Verdi	Bridge Street	3,200	Volunteer

Notes: N/A = not available. The Cold Springs station has one full-time person assigned.

Source: Nevada Division of Forestry.

Additionally, the BLM operates out of a hangar on the airfield at Stead under an agreement with the Airport Authority of Washoe County. The BLM also bases its air tanker, with fire suppression capability, and the associated three crew members at the Stead facility.

No additional BLM stations are anticipated to be needed through the year 2007.

Police Protection

Conditions and Trends

Another fundamental and important service provided by Washoe County is that of police protection. This service is provided in Washoe County by local, state and federal agencies. As is typical throughout the nation, local government plays the major role in the provision of police services in Washoe County. For the purposes of this section, police protection services include law enforcement, traffic control, detention, crime prevention, education, and emergency rescue functions.

Agencies providing these services in Washoe County have been given jurisdiction in specific areas, but can, under certain circumstances, operate outside of these areas. Reno and Sparks agencies operate within their respective municipal boundaries. The Washoe County Sheriff's Office provides police protection services for all of Washoe County, to include Reno and Sparks. The Sheriff's Office also supports countywide services such as the Crime Lab, Search and Rescue, and a number of ongoing educational programs. The Nevada Highway Patrol (NHPD) has jurisdiction on all federal-aid primary, secondary, and state maintained roads in Nevada. The State of Nevada has provided the University of Nevada system with its own police agency. The University of Nevada Police (UNPD) are responsible for providing police protection at all property held and/or operated by the university system. The Reno Indian Colony and the Pyramid Lake Indian Reservation are provided police protection by their respective Tribal Police. In addition, both state and federal agencies have responsibility for providing police services within specific jurisdictions on the state and/or federal lands. Various federal agencies have jurisdiction for federal violations, but these agencies do not enter into the local planning process and are not discussed in detail in this section.

The Reno Police Department, the Washoe County Sheriff's Office, the Tribal Police, the Reno Fire Department, and the Truckee Meadows Fire Protection District share a combined dispatch and communications center. This has proved to be a benefit to the taxpayers because agency interaction has been improved and there is less duplication of both facilities and manpower.

The minimum service standards listed in Table 14 are used for condition assessment and analysis throughout this section. Table 15 lists the number of sworn officers and population ratios by police protection agency. Table 16 on the following page lists for each agency, police protection facility square footages in relation to sworn officers and population served.

Table 14
Minimum Police Protection Standards

Residential Land Use Designation	Response Time
Urban	10 minutes or less
Suburban	10-15 minutes
Rural	20-25 minutes

Source: Washoe County Department of Community Development.

Washoe County Sheriff's Office

The Washoe County Sheriff's Office provides police protection services to the unincorporated areas of Washoe County, provides educational programs, and by agreement and in cooperation with the Cities of Reno and Sparks, operates the Hasty Team (Search and Rescue) which provides emergency rescue services throughout the County. The Sheriff's Office, with some state assistance, operates the Crime Laboratory which serves all of Washoe County and several other counties throughout the state. All Sheriff's Office functions are located in the Sheriff's Office Headquarters and Washoe County Detention Facility located at 911 Parr Boulevard in Reno. Additionally, the Sheriff's Office maintains the Incline Village Patrol Division substation (located at the intersection of Highways 431 and 28 in Incline Village) and the Gerlach substation (co-located with the Gerlach Justice Court at 625 Desert Street in Gerlach).

Table 15
1990 Sworn Police Officers/Population Ratios by Agency

Agency	Population	Sworn Officers	Officers/1,000 Population
Sheriff (unincorporated only)	260,029 71,796	165 165	.63 2.30
Tribal Police Reno Indian Colony Pyramid Lake Paiute Tribe	264 1,388	6 3	22.73 2.16
NHPD	260,029	40	0.15
UNPD	23,885	13	0.54

Notes: Figures have been rounded. Population for Sheriff and NHPD are countywide. Unincorporated Washoe County figures shown for comparison. Population for tribal members are from 1990 census figures released in January 1991. Population for UNPD are students, faculty and staff.

Source: Washoe County Department of Community Development.

Table 16
1990 Police Facility Square Footages by Officer

Agency	Sworn Officers	Facility Sq. Ft.	Sq. Ft./Officer
Sheriff	165	79,200	480
Tribal Police			
Reno Indian Colony	6	1,600	267
Pyramid Lake Paiute Tribe	3	336	112
NHPD	40	7,871	197
UNPD	13	4,000	308
Washoe County Detention Facility	NA	289,000	NA
Misdemeanor Detention Facility	NA	14,654	NA

Notes: Abbreviation: NA = not applicable. Figures have been rounded. Detention facilities are used by several jurisdictions and size is shown for comparison only.

Source: Washoe County Department of Community Development.

The Sheriff's Office currently is authorized 165 protection service officers, 185 detention facility officers, and 170 non-sworn employees, for a total of 520. During an average day, the Sheriff's Office maintains 31 to 45 patrol units in service throughout the County.

The Sheriff's Office Headquarters and Washoe County Detention Facility was completed in 1988. The facility includes a 79,200 square foot administrative building, a 289,000 square foot Detention Center, and a 14,654 square foot Misdemeanor Detention Center. The Detention Facilities provide services for local jurisdictions in Washoe County.

Additional substations could be required during the planning period dependent on developments such as the Galena Ski Resort, Warm Springs Specific Plan Area, projects in the Southeast and Southwest Truckee Meadows, Spanish Springs, and South Valleys.

Nevada Highway Patrol Division (NHPD)

The Nevada Highway Patrol (a division of the State of Nevada Department of Motor Vehicles and Public Safety) is primarily responsible for providing police protection services along the roads and highways maintained or funded by the State of Nevada and the federal-aid primary and secondary road system (these are the federally funded interstate and intrastate roads and highways). In addition, the NHPD is the primary motor vehicle accident investigation agency in the state.

In Washoe County, the NHPD operates from its main station at 305 Galetti Way in Reno. There are 40 sworn personnel assigned to the Reno station. Suspects are booked at the Washoe County Detention Facility at 911 Parr Boulevard. The NHPD maintains its own dispatch center and communications network. The NHPD is planning to construct a 15,000 square foot office building with dispatch center and a 4,500 square foot maintenance facility south of Crummer Lane between Kietzke Avenue and U.S. Highway 395. Construction is expected to be completed by 1993.

University of Nevada Police Department (UNPD)

The University of Nevada Police are responsible for providing police protection services on all university system property, to include the University of Nevada, Reno campus; the Truckee Meadows Community College; the Desert Research Institute; and the Sierra Nevada Job Corps. They have full peace officer status under the Nevada Revised Statutes.

The UNPD operates from its headquarters at 1303 Evans Avenue. The agency currently employs 13 full-time sworn officers and maintains three units on patrol. Suspects are booked at the Washoe County Detention Center at 911 Parr Boulevard and dispatching is accomplished through the joint City/County dispatch center.

No additional facilities are anticipated to be needed during the planning period.

Tribal Police

Reno Indian Colony The Reno Indian Colony maintains its own police force and their officers have limited peace officer status under the Nevada Revised Statutes.

The Tribal Police operate from one station located at 1995 East Second Street at the Reno Indian Colony. Currently, the agency employs six full-time sworn officers and eight reserve officers. Agency dispatch is done through the joint City/County dispatch center. Suspects are booked at the Washoe County Detention Center at 911 Parr Boulevard.

Additional facilities may be required based on the anticipated development at the Indian Colony site in Hungry Valley. The exact timing and extent of this facility is not yet known.

Pyramid Lake Paiute Tribe The Pyramid Lake Paiute Tribe is policed by federal police officers under the jurisdiction of the U.S. Bureau of Indian Affairs (BIA). These federal officers are recognized by provisions of the Nevada Revised Statutes as being able to enforce state statutes. As such, the officers provide law enforcement for the Pyramid Lake Indian Reservation and the surrounding area. The BIA has a written agreement with the Washoe County Sheriff's Office for mutual assistance and use of the Washoe County Detention Center.

The BIA employs three full-time sworn officers for the Pyramid Lake area. These officers operate out of a substation in Wadsworth and out of tribal facilities in Nixon and Fernley. Dispatch is done through the Nevada Highway Patrol Division dispatch center. Suspects are booked at the Washoe County Detention Center at 911 Parr Boulevard in Reno.

No additional facilities are anticipated to be needed during the planning period.

Law Enforcement Agencies

Other law enforcement agencies serving Washoe County are primarily units of the federal government. These agencies, some of which are listed below, have jurisdiction over federal violations or concerns and are not significantly influenced by the local planning process:

- Bureau of Alcohol, Tobacco and Firearms;
- Bureau of Indian Affairs;
- Drug Enforcement Administration;
- Federal Bureau of Investigation;
- Immigration and Naturalization Service;
- Internal Revenue Service;
- United States Customs;
- United States Secret Service;
- United States Department of Agriculture; and
- United States Department of Defense.

Analysis

The population of Washoe County is expected to increase to approximately 379,400 people by the year 2007, with the majority of the increase (74 percent) occurring in the Truckee Meadows. As growth continues in Washoe County, additional police protection facilities and services will be needed.

Based on the standards listed in Table 14 on page 41, assuming that the number of sworn officers per 1,000 residents and the facilities per officer are adequate, and that these numbers may be held constant, police protection facilities and personnel needs can be estimated through the year 2007. Based on a projected countywide population of 379,400, the Washoe County Sheriff's Office is projected to need a total of 239 protection service officers. This total represents an increase of 74 officers. The total square feet of facilities projected is 114,720 which is an increase of 35,520 square feet over present facilities. It is anticipated the majority of increased facility needs will be in detention space. The increase of offices and facilities may include future substations.

The use of substations is being considered by the Washoe County Sheriff's Office. The substation would be a subregional facility staffed by a limited number of sworn and non-sworn personnel. Substations can be effective since personnel report directly to these facilities and can complete paperwork and other routine functions there. This can greatly reduce unproductive travel time as trips between patrol areas and support facilities are shortened.

To be most effective, areas served by a substation should have a significant population and/or be far enough from the main station so as to make the travel time between the patrol area and the main station significant. The costs of constructing and staffing a substation can be offset by the increase in productivity gained through reduced travel times. The Washoe County Sheriff's Office has estimated that a substation is appropriate for a population of about 10,000 people, and that each substation should have a service area of around ten square miles which does not overlap with other service areas.

One substation is currently maintained at Incline Village by the Washoe County Sheriff's Office. The areas most likely to be considered for the location of additional substations are the south Truckee Meadows area, Spanish Springs, and the Stead area.

Chapter 280 of the Nevada Revised Statutes provides a mechanism for the merger of city and county law enforcement agencies into a countywide metropolitan police department. The legislature was concerned about the matter as evident in this quotation from its findings (NRS 280.010):

1. That there is substantial duplication of functions, manpower and expenses between the city and county law enforcement agencies in this state.
2. That merger of city and county law enforcement agencies would increase the efficiency of such agencies by increasing communication facilities, lowering purchasing costs, and coordinating law enforcement efforts throughout metropolitan areas.

Some advantages of consolidation would be fewer jurisdictional problems, more efficient facility and patrol area planning, a more centralized and comprehensive administration, and more cost-effective support services. In addition, there is the potential for increased recognition and support of a single metropolitan police agency by the public.

Some of the disadvantages of such a merger might be the cost of remarking patrol and other vehicles, administration transition problems, the time required to realign and assign patrol areas, and the difficulties associated in housing such a combined agency.

Justices' Courts and Constables

Conditions and Trends

As provided by the Nevada Revised Statutes (NRS), each township in the state is required to elect at least one justice of the peace. In accord with NRS 257.010, the Washoe County Board of County Commissioners has established the townships of Gerlach, Incline-Crystal Bay, Reno, Sparks, Verdi, and Wadsworth. Each of these townships, therefore, maintains a justices' court facility and staff. In addition, these townships elect a constable whose function is to act as a peace officer within the township, and to serve all intermediate and final processes issued by the justice of the peace. The map on the following page shows the locations of the Washoe County townships.

The term of office for both justices of the peace and constables is four years, and each is elected by the residents of their respective township. Justices of the peace may issue subpoenas and generally have jurisdiction over misdemeanors, landlord-tenant actions, person and/or property damages, violations of city or county ordinances, and certain other actions where the amount of money, damages, or property value does not exceed \$2,500. Justices are also required to record motor vehicle violations and can administer oaths and certify acknowledgements and affidavits.

The number of justices of the peace that may be elected is prescribed by NRS 4.020, which requires at least one justice for each township in the state. The specific NRS requirements are shown in Table 17.

Table 17

Justice of the Peace Requirements in Relation to Township Population

Township Population	Number of Justices
Less than 90,000	1
90,000 - 149,999	3
150,000 - 399,999	5
400,000 or more	6

Source: Nevada Revised Statutes.

The service level for constables has not been specified by the Nevada Legislature. However, a comparison of the current township populations versus constable staff produced the average staffing levels as shown in Table 18 below.

Tables 17 and 18 serve as minimum service level standards for comparison and analysis in this section.

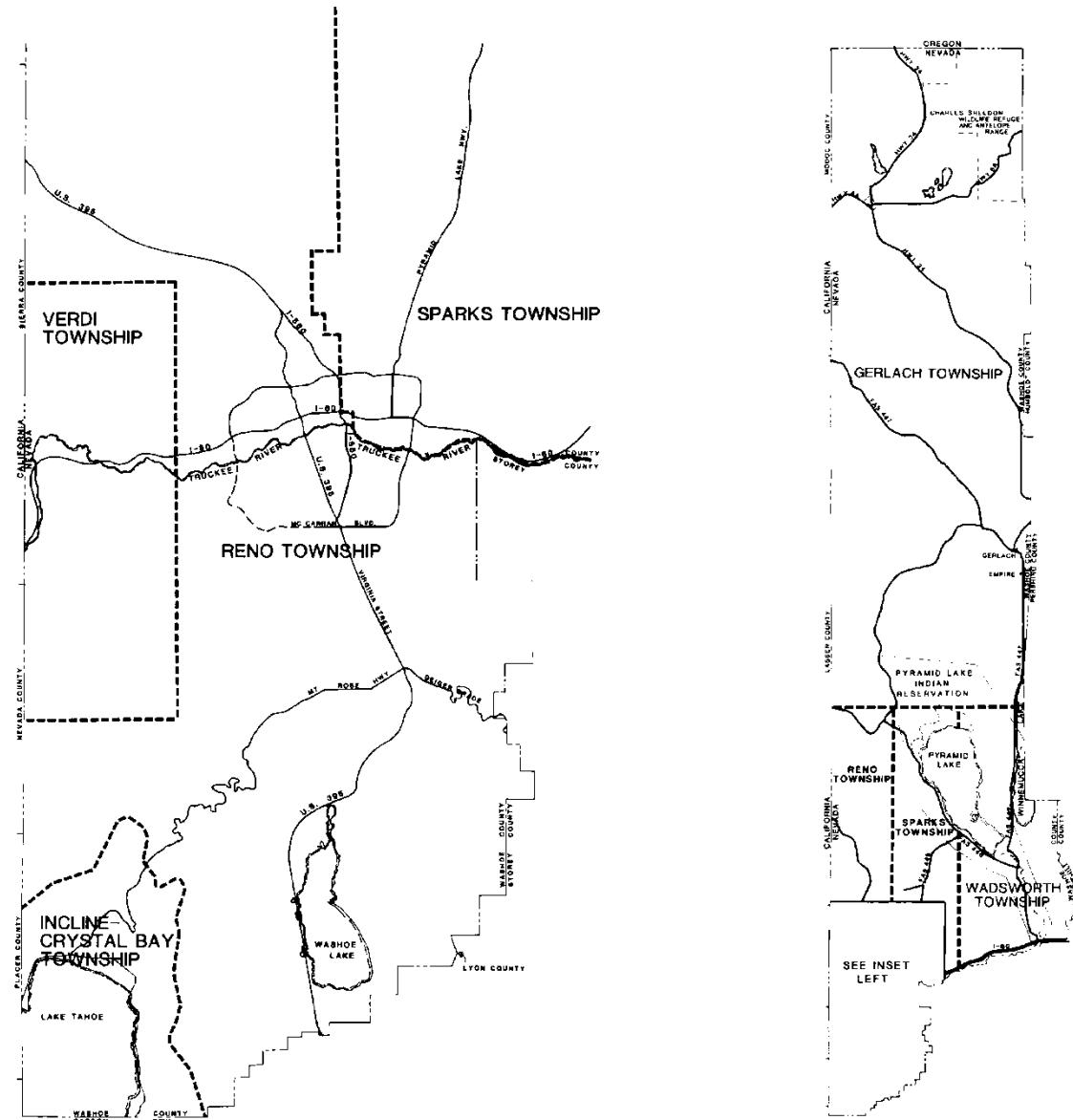
Table 18

Township Population in Relation to Constable Staff

Township Population	Number of Constable Staff
Less than 30,000	1
30,001 - 85,000	2
85,001 - 115,000	3
115,001 - 195,000	4
195,001 - 250,000	5
250,001 - 308,000	6
308,001 - 363,500	7

Source: Washoe County Department of Community Development.

Washoe County Townships



NOT TO SCALE



TOWNSHIP BOUNDARY

Source: Washoe County Department of Community Development.

Table 19 shows the 1990 population of each township in Washoe County in relation to justice court staff (including the justices) and facility square footages.

Table 19
1990 Township Population and Justice Court Staff/Facilities

Township	Population	Justice Court Staff	Facility Sq. Ft.	Sq. Ft./Employee
Gerlach	650	1	295	98
Incline	7,770	3	1,245	415
Reno	167,537	37	18,173	491
Sparks	70,716	11	4,106	373
Verdi	2,400	1.6	820	315
Wadsworth	1,288	1.4	560	233

Notes: Figures have been rounded. The Gerlach facility is shared with the constable and the Sheriff's resident deputy. Both Verdi and Wadsworth facilities are shared with the constable. The Reno and Incline facilities are leased. Sparks and Wadsworth population excludes tribal members.

Source: Washoe County Department of Community Development.

Table 20 shows the 1990 populations of each township in Washoe County, along with constable staff and facility square footages.

Table 20
1990 Township Population and Constable Staff/Facilities

Township	Population	Total Staff	Facility Sq. Ft.	Sq. Ft./Employee
Gerlach	650	1	295	98
Incline	7,770	1	144	144
Reno	167,537	5	836	167
Sparks	70,716	2	244	122
Verdi	2,400	1	820	315
Wadsworth	1,288	1	560	233

Notes: Figures have been rounded. The Gerlach facility is shared with the justice court and the Sheriff's resident deputy. Both Verdi and Wadsworth facilities are shared with the justice court. Sparks and Wadsworth population excludes tribal members.

Source: Washoe County Department of Community Development.

Gerlach Township

The Gerlach justice court is housed along with the Sheriff's resident deputy and constable in a small County-owned building at 625 Desert Street in Gerlach. This building contains the courtroom, office space, and two holding cells.

There are three employees, including the justice of the peace and a part-time deputy sheriff, working out of this facility. With the slow growth experienced by this township expected to continue, the present facilities should prove to be adequate, with minor modifications, to the year 2007.

Incline-Crystal Bay Township

The Incline justice court and constable are located at 865 Tahoe Boulevard in Incline Village. This facility is leased by Washoe County.

There are four employees, including the justice of the peace and a part-time deputy constable, housed at the facility. Minor increases in clerical and support staff are the most likely changes in personnel to be expected through the year 2007. The Incline justice court and constable are programmed to move into the planned Incline Administrative Building upon its completion.

Reno Township

The Reno justices court is located in the Washoe County Courthouse Annex at 201 South Virginia Street in downtown Reno. The facility includes reception areas, office and meeting space, as well as courtrooms and judges' chambers. The Reno constable is also located in this building. This space is leased by Washoe County.

There are 34 employees, including three justices of the peace, at the Reno justice court. The Reno justice court will add one new justice of the peace and five to six additional administrative staff members by the end of 1991. The constable's office has five employees and one part-time clerk. Current plans call for both the justices courts and the constable to relocate across Court Street to space in the new County Courthouse Complex. The space and facilities in the Courthouse Complex should be adequate for both the courts and constable through the year 2007.

Sparks Township

The Sparks justices court and constable are located at 814 B Street in Sparks. The building is owned by Washoe County and provides space for offices, reception areas, and courtrooms.

Currently, the justice court employs one justice and 10 clerical and support personnel, while the constable's office has two full-time employees. Conditions in the building are very cramped and additional staff are needed but can not be added due to lack of space. The 1992-97 Washoe County Capital Improvements Program includes a request to construct a new justice court facility for the Sparks Township.

Verdi Township

The Verdi Township's justice court and constable are housed at 740 Second Street in Verdi. The facility, which is owned by Washoe County, includes office space and a courtroom.

There are three employees, including the justice of the peace, working at the facility on a part-time basis.

Wadsworth Township

The Wadsworth Township's justice court and constable are housed in a County-owned facility located at 375 West Main Street in Wadsworth. The facility includes both office and courtroom space.

Including the justice of the peace, there are three people employed at the facility on a part-time basis. No changes in staffing levels or facilities for the Wadsworth Township are anticipated through the year 2007.

Analysis

As the population of Washoe County increases, the need for additional services from justices of the peace and constables will also increase. The challenge is to provide these services when and where they are needed.

Table 21 shows the expected township populations in the year 2007, along with the projected staff and facility needs for each justice court. (Staff totals include justices of the peace.)

Table 21
Year 2007 Justice Court Staff and Facility Needs by Township

Township	Population	Staff Total	Staff Needed	Sq. Ft. Total	Sq. Ft. Needed
Gerlach	1,100	1.7	.7	547	449
Incline	12,500	4.9	1.9	1,578	333
Reno	280,400	63.7	26.7	20,511	2,338
Sparks	112,000	17.4	6.4	5,603	1,497
Verdi	5,400	3.6	2.0	1,160	340
Wadsworth	2,200	3.6	2.2	1,160	600

Notes: Figures have been rounded. Staff needs are based on the past statistical relationship observed between population and staff size. Facility needs are based on an average of 322 square feet per employee.

Source: Washoe County Department of Community Development.

Table 22 shows the expected township populations in the year 2007, along with the projected staff and facility needs for each constable's office. (Staff totals include constables.)

Table 22
Year 2007 Constable Staff and Facility Needs by Township

Township	Population	Staff Total	Staff Needed	Sq. Ft. Total	Sq. Ft. Needed
Gerlach	1,100	1	0	181	83
Incline	12,500	1	0	181	37
Reno	280,400	6	1	1,086	250
Sparks	112,000	3	1	543	299
Verdi	5,400	1	0	181	0
Wadsworth	2,200	1	0	181	0

Notes: Figures have been rounded. Facility needs are based on an average of 181 square feet per employee.

Source: Washoe County Department of Community Development.

With the Incline Village justice court and constable facility lease currently under negotiation, the future status of the facility is being evaluated. Current plans are for the Incline Village justice court and constable facility to relocate to the planned Incline Village Administration Center.

Policies and Action Programs

Fire Protection

- PSF.4.1 Provide adequate levels of fire protection, as well as response to life safety threats that are within the scope of fire department operations (i.e. EMS, HAZMAT, disasters) throughout Washoe County through a combination of aggressive education, prevention and response activities.
- PSF.4.1.1 Washoe County shall encourage appropriate agencies to establish a countywide enhanced emergency response (911) telephone system. This telephone system will include automatic location identification and automatic number identification capabilities.
- PSF.4.2 Encourage the development of fire protection facilities in relationship to planned development.
- PSF.4.2.1 The adopted Master Plan map for each planning area shall be used as a guide in determining where additional fire protection facilities are to be located. Funding mechanisms for fire protection facilities shall be included as part of the development process.
- PSF.4.2.2 Washoe County should give high priority to addressing the fire protection needs of the developing areas which are currently not protected or are under-protected.
- PSF.4.3 Encourage and promote interdepartmental and interagency cooperation in the provision of fire protection services to provide the optimum level of emergency services to the citizens of Washoe County.
- PSF.4.3.1 Washoe County will participate in mutual response agreements among fire districts and departments as long as the agreements provide reasonably equal and reciprocal benefits and enhance the ability of Washoe County to provide adequate levels of fire protection throughout the County.
- PSF.4.3.2 Washoe County will cooperate in fire protection facility planning efforts.
- PSF.4.3.3 Washoe County shall consider consolidation or other mechanisms so that redundant or duplicated fire protection services and facilities are minimized and the most efficient use of the resources available can be made.
- PSF.4.3.4 The Washoe County Geographic Information Systems Division will continue to cooperate with fire departments in emergency response mapping.
- PSF.4.4 Provide fire hazard guidelines to protect the public health, safety and welfare.
- PSF.4.4.1 The Washoe County Department of Community Development shall develop maps indicating areas of high wildland fire hazard. During development review, the responsible fire protection agency will recommend appropriate mitigation measures such as fire breaks and suitable vegetation modification in order to establish an acceptable level of risk from fire.
- PSF.4.4.2 Washoe County will promote and encourage ordinances for the mitigation of the wildland fire hazard to structures and other exposed properties.
- PSF.4.5 Ensure that future development uses fire resistant building materials.

- PSF.4.5.1 During development review, the Department of Community Development shall coordinate with the appropriate fire protection agencies to ensure projects include fire resistant materials in buildings and structures to reduce their susceptibility to destructive fires.
- PSF.4.6 Promote the installation of necessary water systems and pre-suppression fire (automatic detection and suppression) equipment.
 - PSF.4.6.1 Washoe County will encourage the use of smoke detectors and automatic sprinklers in existing and future developments, both residential and commercial.
 - PSF.4.6.2 Future development will require water distribution systems to meet fire department standards.
- PSF.4.7 Encourage a countywide approach to hazardous materials response in Washoe County.
 - PSF.4.7.1 Appropriate fire departments will provide a hazardous materials plan and coordinate with the countywide agencies of Washoe County, including Emergency Management, Health Department and Regional HAZMAT Team.
 - PSF.4.7.2 Washoe County will support the Sparks-Reno-Truckee Meadows Regional HAZMAT Team.

Police Protection

- PSF.4.8 Provide adequate levels of police protection throughout Washoe County through a combination of crime prevention and law enforcement activities.
- PSF.4.9 Encourage the development of police protection facilities in relationship to planned use.
 - PSF.4.9.1 The adopted Master Plan map for each planning area shall be used as a guide in determining where additional police protection facilities are to be located.
- PSF.4.10 Encourage and promote interdepartmental and interagency cooperation in the provision of police protection services.
 - PSF.4.10.1 Washoe County will cooperate in police protection facility planning efforts.
 - PSF.4.10.2 Washoe County shall be encouraged to consolidate the provision of police protection services where feasible in order to minimize duplication of services and facilities and to provide the most efficient use of tax dollars.
 - PSF.4.10.3 Washoe County should continue its close cooperation with other police protection agencies in police protection dispatch and communications.
 - PSF.4.10.4 The Washoe County Geographic Information Systems Division will continue to cooperate with police departments in emergency response mapping.

Justices' Courts and Constables

- PSF.4.11 Maintain justice court and constable services at or above current levels by expanding, contracting, or moving both facilities and employees in response to growth in Washoe County.

General Government

The public services and facilities provided by government are based on the needs and desires of the people living in the community. With growth and the resulting rise in population, there is an increasing need for functions such as assessment, budgeting, planning, public works, voter registration, and similar activities. Recent trends in providing general government services include private contracting, franchising with sole source providers (e.g. garbage collection and disposal, cable television, etc.) and/or improvement districts (e.g. special assessment districts, general improvement districts, etc.) to improve efficiency and reduce costs in service delivery. Washoe County will continue to pursue innovative techniques to provide general government services for the residents of the County. In order to provide these services most efficiently, development of the facilities which house and support them should be coordinated with the growth of Washoe County. The general government facilities that house the County agencies providing these services are the focus of this section. A map showing the General Government Service Centers is on the following page.

The General Government section presents the existing conditions and trends concerning general government services and facilities. These conditions and trends form the basis for the projection of both facility and personnel needs through the year 2007. A listing of existing and projected employment and square footage by complex is found in Appendix C. The General Government section is not intended to serve as a detailed site or facility plan, but rather to function as a general guide.

In Washoe County, many general government services are provided from centrally located County government complexes. These complexes are made up of groups of publicly owned buildings and leased areas which are located close together, lending themselves to study as a unit. Each complex houses several departments or departmental divisions. These departments and divisions usually have similar functions, but some act primarily in support of other departments at the complex. These support activities include functions such as vehicle and facility maintenance, purchasing, personnel, and payroll. Some departments have divisions which are not housed at the same complex. This can be due to operational ties with other departments, space, or facility needs which differ from those of the rest of the department. A full listing of the Washoe County departments, their divisions, and locations can be found in Appendix D. Due to these relationships, both facilities and personnel have been categorized by complex, department, and by functional division throughout the General Government section.

There are also a number of communities within the County that receive general government services. Guidelines for the location and development of community service centers are also included in this section.

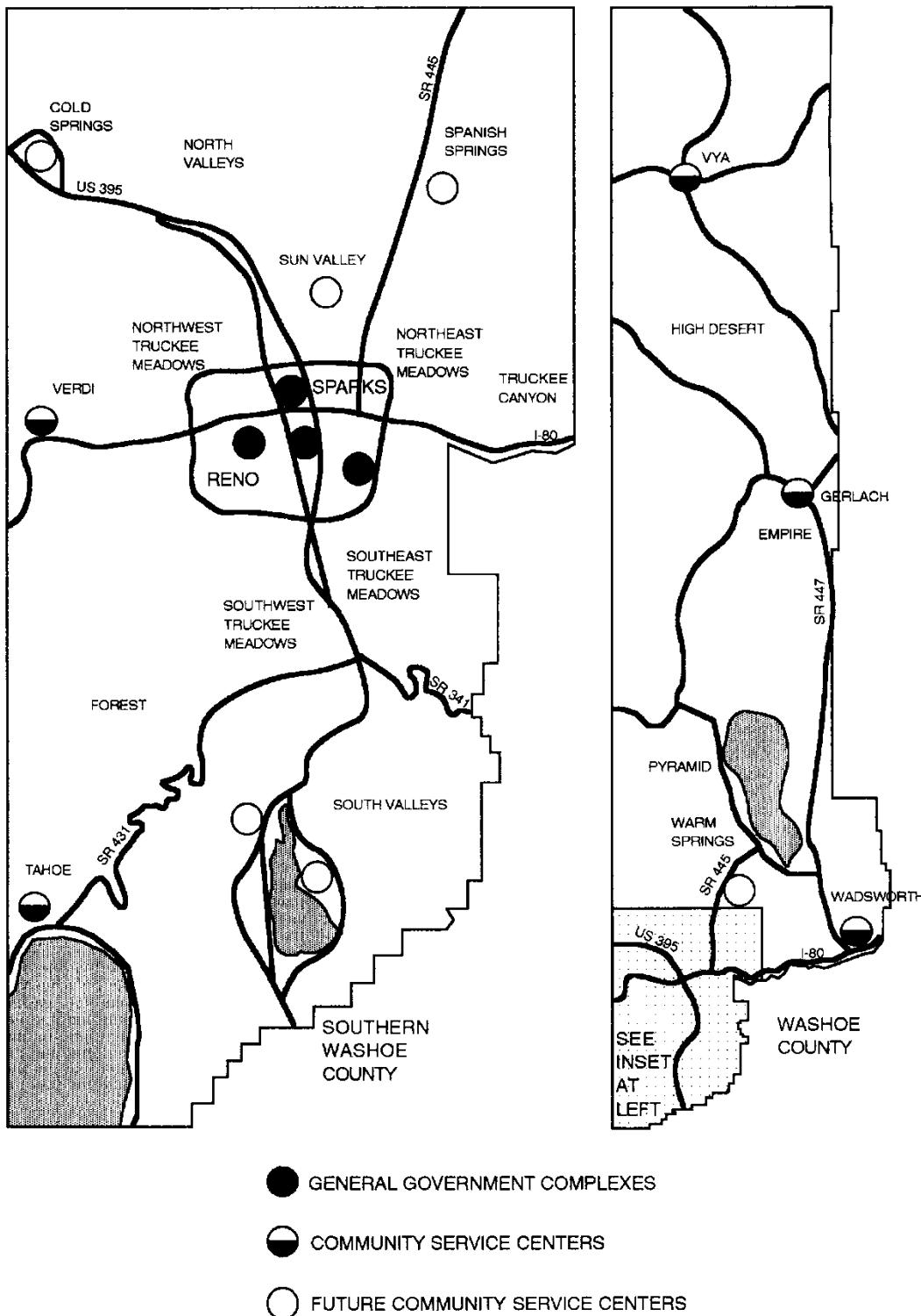
General Government Complexes

Administrative Complex

Existing Facilities

In 1976, a Master Plan for the Washoe County Administrative Complex was completed. It was intended that most County departments which were administrative in nature would be located at a single site. The site chosen was approximately 13.5 acres, at 1001 East Ninth Street, adjacent to the Washoe County Fairgrounds and the University of Nevada Experimental Farm.

General Government Service Centers



Source: Washoe County Department of Community Development.

The Master Plan originally called for phasing facilities on the site through a 20-year period. Construction on the various phases of the complex were completed in 1979 and 1989. Departments moved from locations throughout the Reno/Sparks area to the new facility. Today, the complex consists of five main buildings totaling approximately 318,874 square feet of office, meeting room, public, cafeteria, equipment, and storage space. There are currently 19 departments housed in the Administrative Complex as shown in Table 23 on the following page. As of fiscal year 1990, approximately 626 employees were working at the complex. This represents roughly 33 percent of the Washoe County government workforce.¹¹

Future Facilities

Current plans do not call for an expansion of the physical buildings at the Administrative Complex at Ninth Street and Wells Avenue. There are, however, proposals to re-configure floor space in the complex. Current plans foresee moving the Cooperative Extension Offices into a University of Nevada, Reno building on Mill Street. The Social Services Department and the District Health Department would expand to fill the vacated office space. The Department of Development Review is planned to be segregated from the Department of Comprehensive Planning and combine some office space with the Building and Safety Division.

There is one project proposed for the Administrative Complex. A joint use multi-story parking structure is currently in the planning stages and is tentatively scheduled at the site for the late 1990s. It is projected that an additional 146,385 square feet may be needed at the Administrative Complex by the year 2007. The building height restriction in the area is 55 feet above grade, and the parking requirements call for one space per 250 square feet of gross floor area. Using these figures, approximately 586 new parking spaces (about 98,000 square feet of additional parking) would be required. The currently planned addition should be designed and constructed to allow expansion to a full five stories with possible below grade parking.

In the future, Washoe County should investigate land acquisition to expand the physical buildings at the Administrative Complex. The expansion should provide space for other departments to relocate from satellite locations to the Administrative Complex. For instance, the relocation of the Washoe County Library System administration and the Washoe County Parks and Recreation Department administration to the Administrative Complex would enhance the centralization of general government services at the Complex.

Courthouse Complex

Existing Facilities

The Courthouse Complex is near the heart of downtown Reno. It is also known as the Downtown/Courthouse Complex due to the several departments that are located in the general downtown Reno area. As the name implies, the focus for the complex is the Washoe County Courthouse located at the corner of South Virginia and Court Streets. The Courthouse building was constructed in 1910 and has had several major additions and renovations since that time.

The primary activities associated with this complex are the judicial and law enforcement functions for Washoe County. The complex consists of two main buildings--roughly 139,113 square feet of office, court room, library, meeting room, equipment, and storage space. There are eight departments housed in the complex with a total of approximately 235 employees. This total represents approximately 13 percent of the Washoe County government employees. Table 24 on page 57 lists by division the departments which are currently in this complex.

¹¹

Based on information contained in the Washoe County 1990-91 Recommended Budget.

Table 23
Administrative Complex Occupancy by Department and Division, 1990

Department/Division	Department/Division
Assessor	Manager
Administrative Division	Emergency Management
Appraisal Division	Finance Division
C.A.A.S. Division	Personnel
Drafting Division	Public Works Department
Personal Property Division	Building and Safety Division
Public Service Division	Engineering Division
Real Estate/Records Division	Purchasing Department
Commissioners	Fixed Assets Division
Comprehensive Planning Department	Recorder
Conservation and Natural Resources Planning	Administrative Division
Growth Management	Real Estate and Maps Division
Information Systems	Marriage Division
Strategic Planning and Projects	Registrar of Voters
Comptroller	Records and Elections
Cooperative Extension Service	Cartography
Development Review	Reproduction Department
Administrative Services	Duplicating Division
Information/Permits	Mail Room Division
Project Review	Microfilm Division
Zoning Enforcement	Typeset Division
District Health Department	Senior Citizen Service Center
Air Pollution	Social Services Department
Community and Clinical Health Services	Child Care Licensing Division
Environmental Health Services	Child Protective Services Division
Other Services	General Assistance Division
General Services Department	Health Care Assistance Division
Management Information Services	Treasurer
Operations Division	Accounting
Programming Division	Cashier
	Personal Property
	Special Assessments
	Truckee Meadows Fire Protection District

Source: Washoe County Department of Community Development.

Table 24
Courthouse Occupancy by Department and Division, 1990

Department/Division	Location/Address
Clerk	Courthouse
Constable	Courthouse Annex
District Attorney	
Civil Administrative Division	195 South Sierra Street
Criminal Administrative Division	Courthouse
Family Support	195 South Sierra Street
Forfeiture Unit	195 South Sierra Street
Investigation/Consumer Protection	195 South Sierra Street
Juvenile Unit	195 South Sierra Street
Witness Notification Unit	Courthouse
District Courts	Courthouse
Judges	Courthouse
General Services (Buildings and Grounds)	Courthouse
Justice Courts	Courthouse Annex
Juvenile Courts	Courthouse
Law Library	Courthouse
Public Defender	195 South Sierra Street

Source: Washoe County Department of Community Development.

Future Facilities

There are no new facilities proposed for the Courthouse Complex in the near future. However, the Washoe County Board of County Commissioners has recently approved a two phased project which will eventually consolidate all courts into a central location by 1998. Phase I consists of demolishing the old Ardan's Department Store and the old Cavalier Motor Lodge to construct the first story of a multi-story parking garage, and building approximately 53,000 square feet of the new Courthouse Complex. Phase II will involve completion of the new Courthouse Complex and the demolition of the current Courthouse West building. The projections for the Courthouse Complex show that an additional 63,862 square feet may be needed by the year 2007. This addition would require approximately 255 new parking spaces.

Longley Lane Complex

Existing Facilities

The Longley Lane Complex is located on Longley Lane between Pembroke Drive and Houston Drive, approximately one mile north of the McCarran/Longley Lane intersection. Construction of the facility was begun in 1966.

Today, the complex is made up of seven buildings and several equipment yards on approximately 25 acres leased from the City of Reno. The buildings total roughly 54,588 square feet.

The main activities conducted at the Longley Lane Complex are those that require large amounts of space. These activities include vehicle and equipment storage/maintenance and warehousing. There are three departments represented at the complex, employing approximately 143 people. This represents 7.6 percent of the Washoe County government employees. Table 25 shows the departments currently housed at Longley Lane by division.

Table 25
Longley Lane Occupancy by Department and Division

Department/Division	Address
General Services Department	
Administrative Division	3025 Longley Lane
Animal Control Division	3035 Longley Lane
Buildings and Grounds Division	3021 Longley Lane
Communications Division	3031 Longley Lane
Equipment Services Division	3101 Longley Lane
Records Management Division	3025 Longley Lane
Public Works Department	
Road Division	3101 Longley Lane
Purchasing Department	
Warehouse	3035 Longley Lane

Source: Washoe County Department of Community Development.

Future Facilities

The only proposed new facility for the Longley Lane Complex is a 5,720 square foot building to serve as a storage and maintenance shop for the Road Division. This facility is being programmed into the Washoe County Capital Improvements Program. Other recent major changes have been the relocation of the Utility Services Division to leased space at 1195-B Corporate Boulevard (Dermody Business Park), and the move by the Sheriff's Patrol Division to the new City/County Jail at 911 Parr Boulevard. It is hoped that sometime in the 1990s a new facility can be built either at the Longley Lane Complex or at the Administrative Complex to permanently house the Utility Services Division. However, the current situation is expected to continue for several years until the new County Water Resource Management Agency is operational. There are approximately 33 Utility Services Division employees located at the Corporate Boulevard site. It is projected that the Longley Lane Complex may require an additional 25,060 square feet of building space by the year 2007. This additional building space would require approximately 100 new parking spaces.

Mill Street/Kirman Avenue Complex

Existing Facilities

The Mill Street/Kirman Avenue Complex is made up of facilities located in two main areas: the facilities around 1205 Mill Street and the facilities at 10 Kirman Avenue. The complex is adjacent to Washoe Medical Center between Mill and Second Streets.

The facility on Mill Street was begun in 1968 and completed in 1969. Today, there are two buildings on approximately 5.47 acres at this site. Wittenberg Hall, the juvenile detention facility for Washoe County, and the Public Administrator are located at the Mill Street site.

The Kirman Avenue facility sits on approximately .56 of an acre. The building was erected in 1959 and was extensively remodeled in 1978. The Coroner is located at the Kirman Avenue site.

Approximately 99 people, or 5.3 percent of the total Washoe County government work force, are employed at the two facilities. There are three departments occupying 72,354 square feet at this complex. Table 26 lists these departments by division.

Table 26
Mill Street/Kirman Avenue Complex Occupancy by Department and Division

Department/Division	Address
Coroner	10 Kirman Avenue
Juvenile Probation	
Detention Division	1255 Mill Street
Probation Division	1205 Mill Street
Public Administrator	1205 Mill Street

Source: Washoe County Department of Community Development.

Future Facilities

No new facilities are anticipated at this complex in the near future. It is planned for the Corner's Office to move to 1205 Mill Street and that the facilities at 10 Kirman Avenue will probably be purchased or leased by Washoe Medical Center. It is projected that the Mill Street/Kirman Avenue Complex may require an additional 33,215 square feet of building space by the year 2007. The major portion of the building at 1205 Mill Street can be expanded through the addition of a second floor. This additional building space would require roughly 133 new parking spaces.

Community Service Centers

Because Washoe County covers approximately 6,549 square miles, some general government services are provided by community service centers that have been established in several communities. These communities are Gerlach, Incline Village, Verdi, Vya and Wadsworth. However, due to lower populations and fiscal restraints, these centers do not currently provide the full range of general governmental services. Gerlach, Verdi and Wadsworth have been designated as suburban communities in the Truckee Meadows Regional Plan. As growth occurs in these suburban communities, the range of general governmental services offered through their respective community service centers may have to be expanded.

Gerlach

The facilities serving Gerlach are shown in Table 27. There are no anticipated changes in the general government services or facilities located in the Gerlach area at this time.

Table 27
General Government Departments Serving the Gerlach Area

Department/Division	Address
Community Center	420 Cottonwood
General Services Department	
Equipment Services Division	180 Del Ora Street
Justice Court and Jail	625 Desert Street
Public Works Department	
Road Division	180 Del Ora Street
Senior Citizen Service Center	330 West Sunset

Notes: The constable and Sheriff are located in the justice court. This table does not include the Library, which is discussed in the Library section of this element.

Source: Washoe County Department of Community Development.

Incline Village

Table 28 shows the departments currently located in Incline Village. Washoe County is currently planning to construct an approximate 12,000 square foot administrative building in Incline Village directly west of the current Incline Village Library. Most, if not all, of the general government services located throughout Incline Village should be able to consolidate in the administrative building upon its completion.

Table 28
General Government Departments Serving the Incline Village Area

Department/Division	Address
General Services Department	
Equipment Services Division	625 Mt. Rose Highway
Justice Court	865 Tahoe Boulevard
Public Works Department	
Road Division	625 Mt. Rose Highway

Notes: The constable is located within the justice court. This table does not include the Sheriff, which is discussed in the Public Safety section, and the Library, which is included in the Library section of this element.

Source: Washoe County Department of Community Development.

Verdi

The departments serving Verdi consist of the Verdi justice court and the Verdi constable, located at 740 Second Street. There are no anticipated changes in the general government services located in Verdi at this time.

Vya

The Road Division of Public Works staffs a maintenance facility in Vya. There are no anticipated changes in the general government services located in Vya at this time.

Wadsworth

The departments serving Wadsworth consist of the Wadsworth justice court and the Wadsworth constable located at 375 West Main Street. There are no anticipated changes in the general government services located in Wadsworth at this time.

Other Communities

Other communities which may require community service centers include New and Old Washoe City (Washoe Valley), Sun Valley, Cold Springs, Spanish Springs, and Warm Springs. The services included at each of these community service centers will depend on the size of the community being served. As a general guideline, a central site in each community should be acquired and then centers developed in phases. Figures 5, 6, 7 and 8 on the following pages illustrate this concept for a five-acre site.

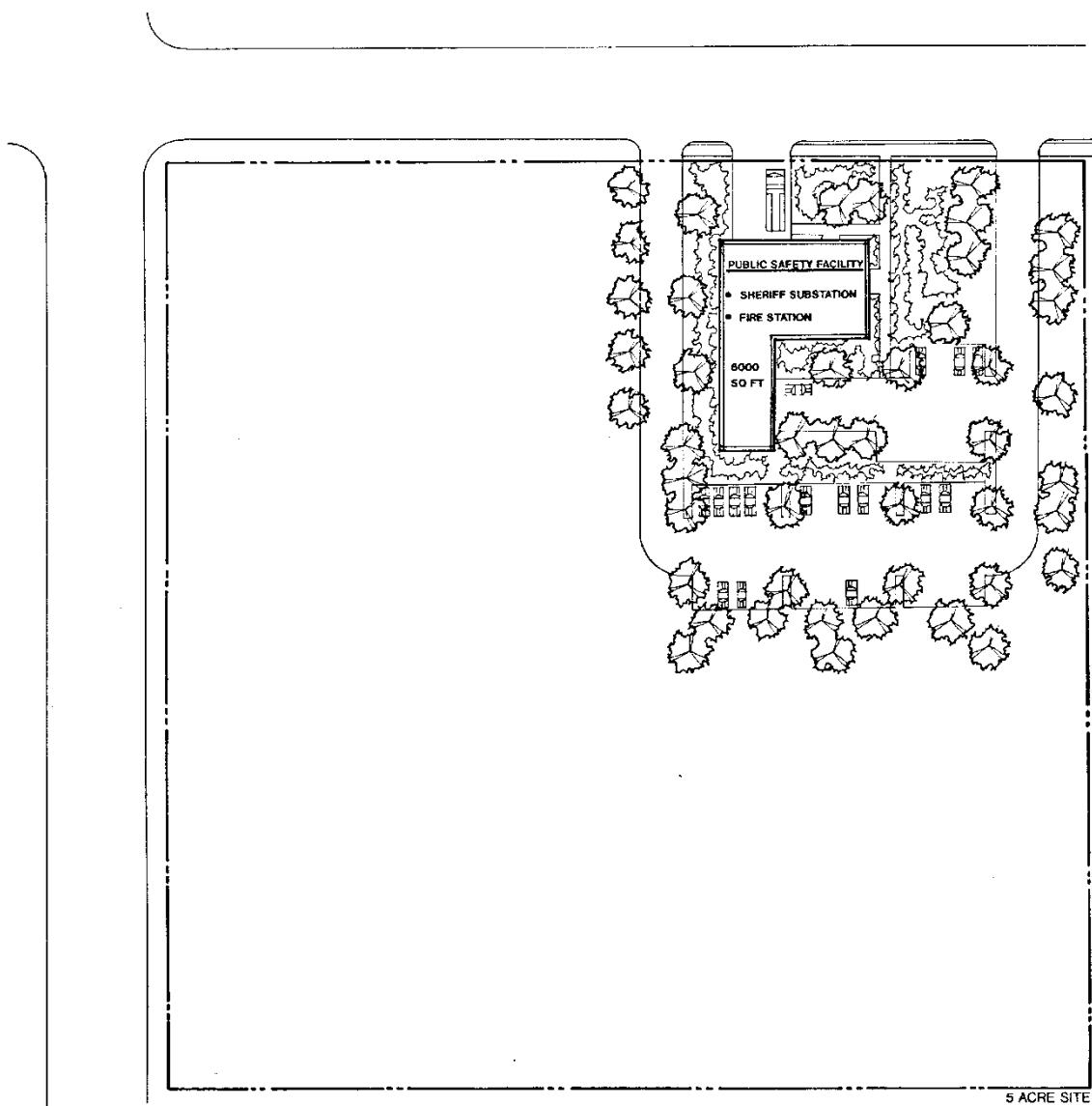
Other General Government Services

A number of other general government services are provided that are not necessarily delivered from a general government complex or community service center. Often these are provided in only certain planning areas by special assessment districts, general improvement districts (e.g. community centers), and/or franchise holders (e.g. cable television). It is important that the County plan for these types of services through use of minimum service standards, provision of alternative funding mechanisms, and management of franchise agreements.

Policies and Action Programs

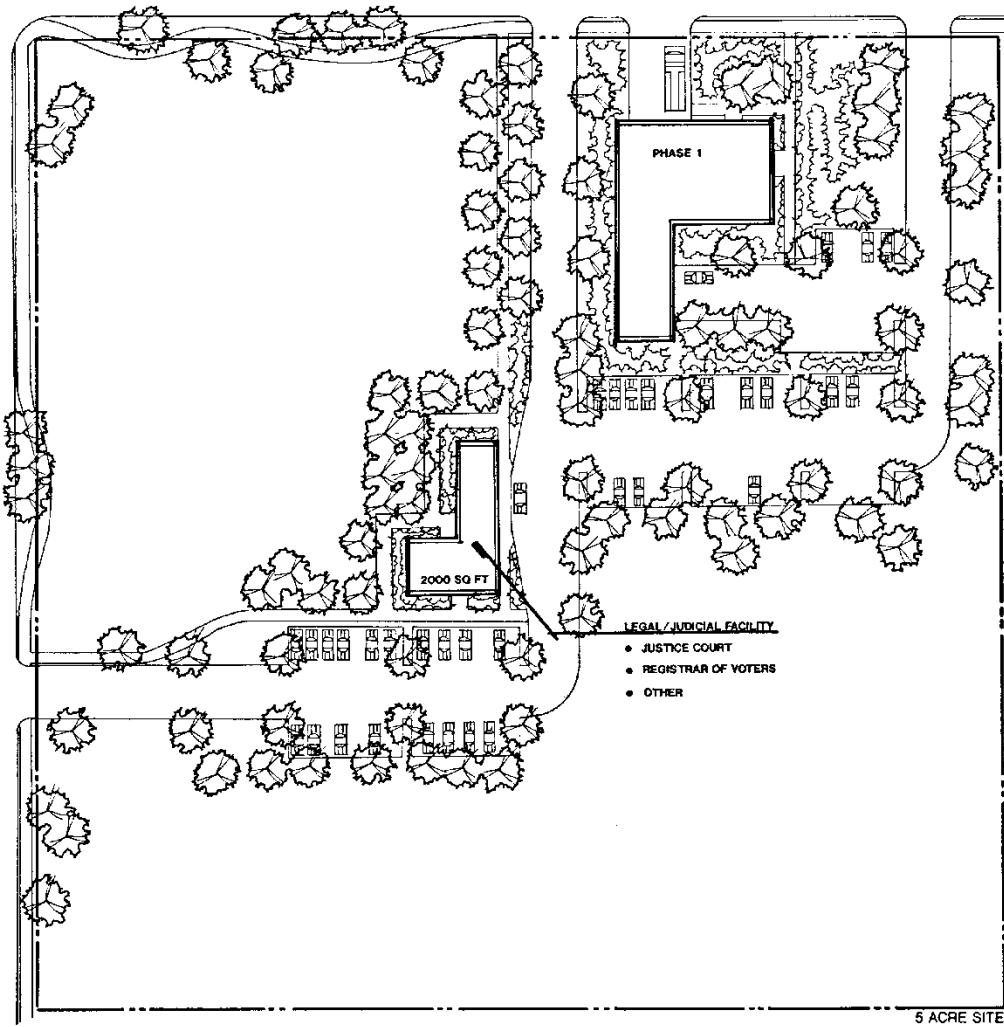
- PSF.5.1 Coordinate the provision of general government services with growth and development in Washoe County.
 - PSF.5.1.1 To maintain adequate levels of service and to provide these at the lowest cost to the public, general government employment should increase at the same or at a slower rate than the rate of population increase.
- PSF.5.2 Encourage the location of general government facilities at regional and community centers.
 - PSF.5.2.1 Washoe County should locate general government facilities at easily recognized regional and community centers. These centers should be situated so that they are readily accessible to the public.
- PSF.5.3 Provide community service centers as needed to communities in Washoe county.
 - PSF.5.3.1 The Washoe County Department of Community Development, together with other appropriate County agencies, will evaluate the need for future community service centers for the communities in Washoe County.
 - PSF.5.3.2 When the need for a community service center is identified for a community, Washoe County should acquire a central site for the location of the service center and plan for phased development of the center.

Figure 5
Community Service Center
Phase 1 Concept



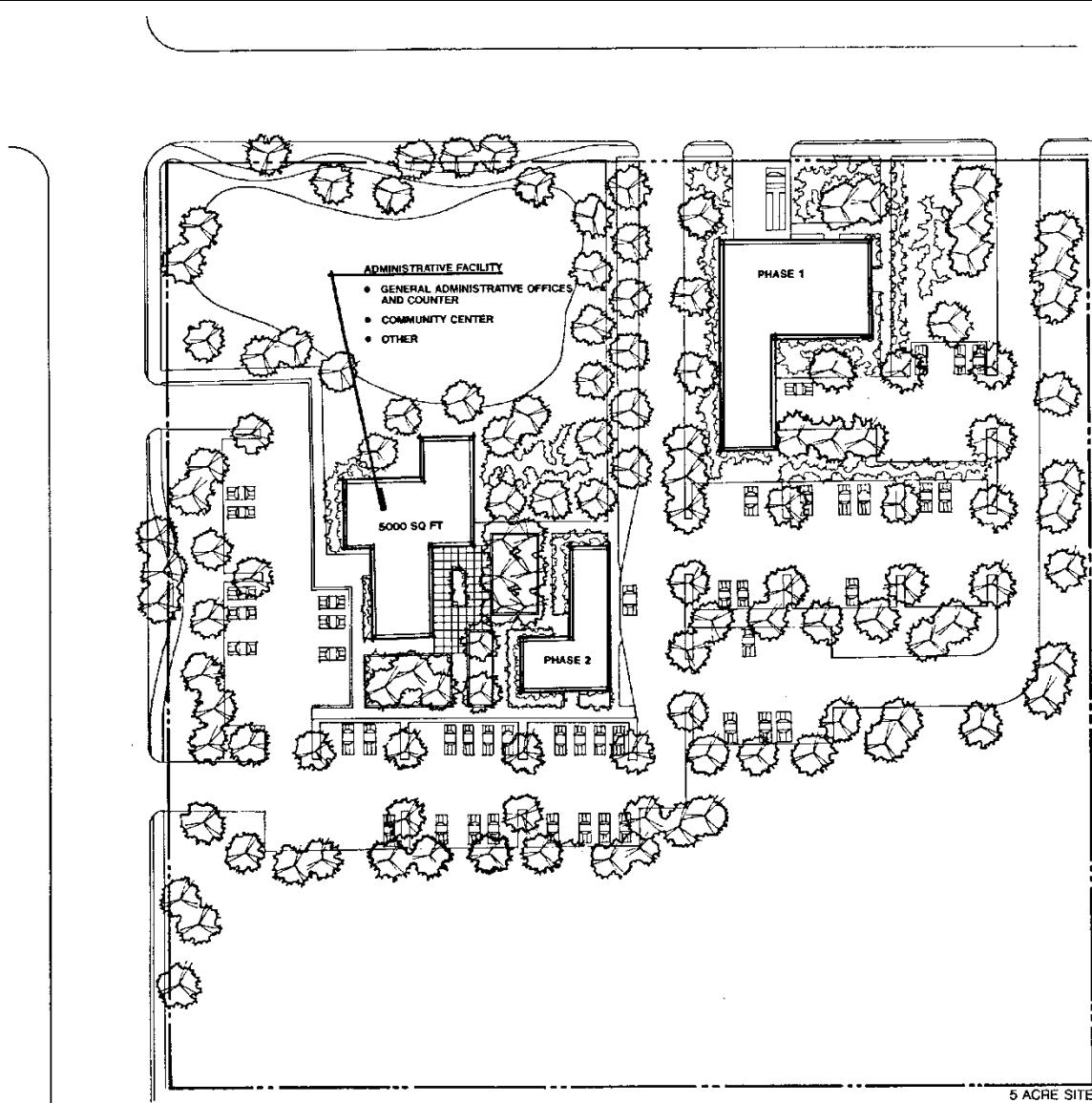
Source: Washoe County Department of Community Development.

Figure 6
Community Service Center
Phase 2 Concept



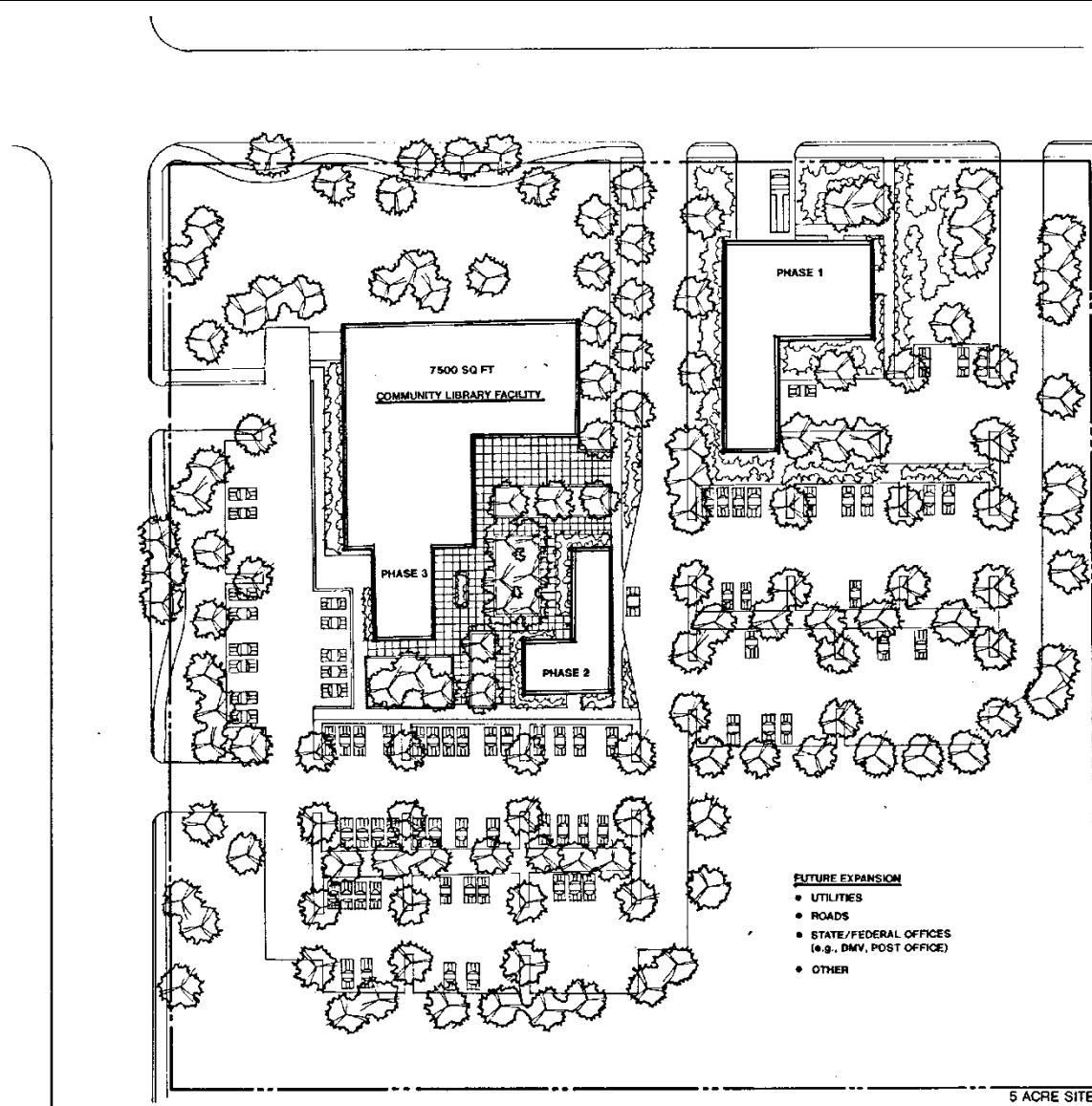
Source: Washoe County Department of Community Development.

Figure 7
Community Service Center
Phase 3 Concept



Source: Washoe County Department of Community Development.

Figure 8
Community Service Center
Phase 4 Concept



Source: Washoe County Department of Community Development.

- PSF.5.4 Ensure that appropriate levels of public services and facilities are provided.
- PSF.5.4.1 Planning Area Minimum Service Standards (see Table 4 in the Land Use and Transportation Element) shall be utilized during development review and in the preparation of the Capital Improvements Program.
- PSF.5.4.2 Development proposals that include private provision of capital improvements which are included in the current adopted Capital Improvements Program will be given more favorable consideration during project review.
- PSF.5.4.3 Development proposals that, based on the Planning Area Minimum Service Standards, create a need for additional capital improvements beyond those included in the current adopted Capital Improvements Program shall be required to provide those capital improvements as a condition of project approval.
- PSF.5.5 Ensure that special assessment districts and similar jurisdictions take prior contributions to the provision of services into account when calculating fee levels for additional services.
- PSF.5.6 Ensure that cable television franchises in unincorporated Washoe County make cable television available to all subdivisions (i.e. five or more units) that are at a density of one unit per 2.5 acres or greater with the following exception: in areas not contiguous to those that are already served, the cable or service shall be extended up to 150 feet per cumulative number of units that can be served.

Libraries

The provision of adequate libraries is an important public service provided to the citizens of Washoe County. As the population of Washoe County continues to grow, there will be increased demand for additional libraries. The timing and location of libraries must be coordinated with the growth of the County.

This section presents the existing conditions and trends concerning libraries in Washoe County. These conditions and trends form the basis for the projection of needs through the year 2007. In addition, appropriate planning standards are included to guide decisions on providing these services. This section is not intended to serve as a detailed facility plan, but rather to provide general guidelines for the County as a whole.

In Washoe County, library services are provided by the Washoe County Library System. Libraries are planned and provided to the County as a whole, regardless of jurisdictional boundaries. The policies and action programs included in this section serve as a guide to help insure that library services and facilities continue to meet the public needs through the year 2007.

Conditions and Trends

A fundamental and important public service provided by Washoe County is the library system. Currently there are four branch libraries and the Reno Central Library. In addition, there is a library facility at the Senior Citizens Center, plus two classrooms in the Gerlach High School are operated jointly as a library with the Washoe County School District. Table 29 shows the existing Washoe County libraries, together with their location and square footages.

Table 29
Existing Washoe County Libraries

Facility	Location	Square Footage
Reno Central	301 South Center Street	44,000
Sparks Branch	1125 12th St.	27,000
Sierra View Branch	Old Town Mall	12,200
Peavine Branch	1075 North Hills Boulevard	6,000
Incline Branch	846 Tahoe Boulevard	6,400
Senior Citizens Branch	9th and Sutro	1,000

Note: Figures are rounded.

Source: Washoe County Library System.

Presently, the library system has 452,509 volumes or 1.74 volumes per capita. The present total square footage of library facilities is 93,522 with a total staff of 107. As the County grows in population, the library system will need to expand to maintain the same level of service to the citizens.

The Northwest Branch Library is being planned to serve the McQueen area in the future. This facility is initially planned to be 20,000 square feet in size. To serve the growing south Truckee Meadows area, the Sierra View Branch Library is planned to permanently locate on a portion of the Anderson Park property south of Del Monte Lane. The Peavine Branch Library is planned to permanently locate on Golden

Valley Road across from its present location in the North Hills Shopping Center. Future plans also show a need for additional joint Washoe County School District/Library System facilities. Possible locations for these joint facilities could be Galena High School, Pleasant Valley Elementary School, Verdi Elementary School, and a future planned middle school in the Spanish Springs area. These branches might also be included in community service centers as discussed in the General Government section of this element.

The Washoe County Library System uses specific planning criteria in choosing future library sites. The primary criteria in selecting a site are compatibility to the surrounding area and ease of access.

Table 30 shows the minimum service standards used in planning for future library facilities . Table 31 lists the library site selection criteria used by the Washoe County Library System.

Table 30
Minimum Service Standards for Library Facilities

Residential Land use	Library Facility
Urban	5 miles or less
Suburban	5 miles or less
Rural	40 minutes, one-way

Source: Washoe County Library System.

Table 31
Library Site Selection Criteria

1. The existing land uses on developed parcels and planned land uses on undeveloped parcels are examined to determine if they would be compatible with a library.
2. Circulation around the library site is reviewed from two perspectives—proximity to bus routes and location on streets used by the highest number of residents.
3. Sites that are closest to regional (first) and neighborhood (second) shopping centers are desirable.
4. Access into and out of the site is considered.
5. Ownership of the site.
6. Areas with excessive noise levels should be avoided.
7. Sites will be located out of flood hazard areas.
8. Sites need to be adequately served by utilities.

Source: Washoe County Library System.

Policies and Action Programs

- PSF.6.1 Provide an acceptable level of library service to all residents in Washoe County .
 - PSF.6.1.1 The Washoe County Department of Community Development will work jointly with the Washoe County Library System to determine the need and location of future library facilities.
 - PSF.6.1.2 The minimum service standards as shown in Table 30 on page 68, Minimum Service Standards for Library Facilities, and in Table 4, Planning Area Minimum Service Standards, in the Land Use and Transportation Element of the Washoe County Master Plan, will be used as a guide in determining the location of future library facilities.
 - PSF.6.1.3 The Washoe County Library System, working with the Washoe County Department of Community Development, will show the location of future library facilities on the Public Services and Facilities Plan map for applicable planning areas.

**WMPA20-0005
EXHIBIT A**

Schools

The provision of adequate schools is an important public service provided to the citizens of Washoe County. Education services are highly visible and have a large impact on the future of Washoe County. As the population of Washoe County continues to grow, there will be increased demand for additional schools. The timing and location of schools must be coordinated with the growth of the County.

This section presents the existing conditions and trends concerning schools in Washoe County. These conditions and trends form the basis for the projection of needs through the year 2007. In addition, appropriate planning standards are included to guide decisions on providing these services. This section is not intended to serve as a detailed facility plan, but rather to provide general guidelines for the County as a whole.

In Washoe County, school services are provided by the Washoe County School District. Schools are planned and provided to the County as a whole, regardless of jurisdictional boundaries. The policies and action programs included in this section serve as a guide to help insure that school services and facilities continue to meet the public needs through the year 2007.

Conditions and Trends

The education of Washoe County's young people is of critical importance to the continued well being of the County. The Washoe County School District is the countywide agency that supplies this essential service. The school district presently has a total of 70 schools countywide: 49 elementary, 10 middle, and 11 high schools. The school district maintains schools in Reno, Sparks, Incline Village, Gerlach and other populated portions of the unincorporated County. As residential growth increases in the unincorporated areas, so will the services and facilities of the school district.

An integral relationship exists between residential growth patterns and existing and future school sites. It is important that the planning efforts of the Washoe County School District be closely coordinated with the adopted area plans for Washoe County. In planning for the facilities and staff needed to accommodate future residential growth, the Washoe County School District applies nationally recognized planning estimates for the percentage of elementary (9.4 percent), middle (3.1 percent), and high (5.5 percent) school students of an area's total population. Table 32 on the following page shows the 1990-91 enrollment figures for Washoe County and projected enrollment for the year 2007 based upon the national planning percentages used by the Washoe County School District.

Using the existing enrollment percentage and the Washoe County School District's planning percentages, the school age composition of unincorporated Washoe County can be estimated. Table 33 on the following page shows the projected school age enrollments for unincorporated Washoe County for 1990 and 2007.

The Master Plan Population Element projects a total of 77,700 school age children (ages 5-19) in Washoe County by the year 2007. The discrepancy between the Population Element projection and the projected 2007 enrollment of 68,292 (using Washoe County School District planning percentages) is due to several factors: the statistical method employed, the difference between enrollment in public and private schools, and a transient population of school age children.

Table 32
School Age Enrollments for Washoe County, 1990 and 2007

	Percent of Total Population	1990-91 Enrollment	Percentage of Total Population	Projected 2007 Enrollments
Elementary (Grades K-6)	8.8	22,830	9.4	35,664
Middle (Grades 7-8)	2.2	5,714	3.1	11,761
High (Grades 9-12)	3.7	9,606	5.5	20,867
Totals	14.7	38,150	18.0	68,292

Notes: Figures are rounded. Current enrollment figures are as of February 1, 1991. The 1990-91 enrollment includes 59 out-of-state school children. Washoe County population as of July 1, 1990 is estimated to be 260,029. Projected 2007 population for Washoe County is 379,400.

Sources: Washoe County Department of Community Development and Washoe County School District.

Table 33
**Estimated and Projected School Age Enrollments for
Unincorporated Washoe County, 1990 and 2007**

	Existing Percentages	Estimated 1990-91 Enrollment	Planning Percentages	Projected 2007 Enrollments
Elementary (Grades K-6)	8.8	6,318	9.4	13,536
Middle (Grades 7-8)	2.2	1,580	3.1	4,464
High (Grades 9-12)	3.7	2,656	5.5	7,920
Totals	14.7	10,554	18.0	25,920

Notes: Figures are rounded. Estimated 1990 population for unincorporated Washoe County is 71,796. Projected 2007 population for unincorporated Washoe County is 144,000.

Source: Washoe County Department of Community Development.

The Washoe County School District uses several methods to determine the size and location of future schools. Additionally, Washoe County has adopted standards which are used to plan future school locations. Regardless of the method or standard used, service areas or school zones for individual schools do not necessarily follow geographical or jurisdictional boundaries. The Washoe County School District configures the service area or school zone to provide maximum efficiency for School District facilities. In anticipation of future growth, the Washoe County School District maintains a site bank of potential school site properties, their acreage and availability. Table 34 on the following page shows the planning guide for school size used by the Washoe County School District. Table 35 on the following page shows the minimum service standards used by Washoe County for school facilities. Table 36 on the following page lists the school site selection criteria used by the Washoe County School District.

Table 34
Planning Guide for School Size

Type of School	Recommended Minimum Size
Elementary	10 acres
Middle	15-20 acres
High	40-50 acres

Source: Washoe County School District.

Table 35
Minimum Service Standards for School Facilities

Residential Land Use	Type of School		
	Elementary	Middle	High
Urban	Walk-in; 1 mile or less	Walk-in; 2 miles or less	Walk-in; 3 miles or less
Suburban	15 minutes one-way	25 minutes one-way	35 minutes one-way
Rural	40 minutes one-way	55 minutes one-way	75 minutes one-way

Note: The Washoe County School District does not necessarily use these standards to determine future school locations.

Source: Washoe County Department of Community Development.

Table 36
School Site Selection Criteria

1. The site is large enough to meet educational needs.
 2. Site is central to, and easily accessible to, present and/or future population.
 3. Site is available and reasonably priced.
 4. Topography, faulting, and soils are within buildable limits.
 5. Street patterns provide reasonable vehicular and pedestrian access.
 6. Utilities and other services are in reasonably close proximity.
 7. Site is removed from undesirable business, industry, and traffic.
 8. Pedestrian services include adequate sidewalks, with designated crosswalks, curb cuts, and correct slopes (handicapped).
 9. Site provides sufficient area for parking (parent and faculty), student pick-up area(s) and bus drop-off and pick-up area(s).
 10. Site is large enough for future on-site expansion.

Source: Washoe County School District.

Policies and Action Programs

- PSF.7.1 Provide an adequate level of school services for Washoe County residents in response to growth in Washoe County.
- PSF.7.1.1 The planning guides, standards, and criteria outlined in the Schools section of the Public Services and Facilities Element, a part of the Washoe County Master Plan, will be used as a guide in determining the location of future school facilities.
- PSF.7.1.2 The Washoe County School District, in conjunction with the Washoe County Department of Community Development, will determine the need and location of future school facilities to satisfy projected enrollment.
- PSF.7.1.3 The Washoe County School District, working with the Washoe County Department of Community Development, will show the location of future school facilities on the Public Services and Facilities Plan map for applicable planning areas.

Parks and Recreation

Providing adequate and ample parks and recreation opportunities to the citizens of Washoe County is a continuing challenge. These amenities are an invaluable part of the County's lifestyle and significantly contribute to the quality of life in Washoe County. Citizens are demanding more in terms of parks and recreational opportunities. Additionally, citizens are asking that open space be acquired and left in a natural state, without any formal parks or recreation uses. The success with which Washoe County balances the demand for more parks, recreation areas, and open space with the fiscal constraints of acquiring and maintaining these facilities will have a significant affect on the County's quality of life.

A primary goal of Washoe County's parks and recreation program is to meet the identifiable regional park and open space needs for County residents. This is achieved, to a large extent, by conserving and enhancing the County's unique features through preservation of lands with scenic, natural, historic and recreational value. Similarly, active recreation facilities may be provided in unincorporated areas. This is achieved through identified park districts and subdistricts. These parks may include neighborhood elements as described in NRS 278.

Washoe County plans, contracts, maintains and operates its parks and recreation system. Washoe County will continue to coordinate with community groups and organizations plus local, state and federal agencies in regional planning of parks, open space and recreation services.

This section is divided into two parts. The first, Regional Parks and Special Use Facilities, discusses regional park and special use facilities standards and analyzes the need for these facilities to the year 2007. The second part of this section, Community Parks, discusses park construction tax districts, identifies parks standards for community parks, and provides an analysis of community park acreage needs through the year 2007. Policies and action programs necessary to implement this section of the Public Services and Facilities Element of the Master Plan are included at the end of this section. In the near future, it is anticipated that a more specific regional open space system plan will be developed in coordination with Reno, Sparks and other appropriate participants. As the plan is developed and adopted, this section will be amended.

Regional Parks and Special Use Facilities

Regional parks conserve and enhance Washoe County's unique features. These may include serene mountain or desert settings, lake front property, wetlands, stream corridors, historic areas, trail corridors and urban recreation area parks. Regional parks are defined as park facilities that serve a wide range of interests and include large areas of open space and may include facilities such as outdoor shelter/assembly areas, individual and group camping and picnic facilities, fishing areas, boating facilities, etc. Each regional park may be unique in having its own particular facilities and not necessarily those found in other regional parks. Regional parks are usually large in size (usually in excess of 100 acres) and have a countywide service area. Special use facilities are recreational facilities that serve a particular activity or group of activities such as tennis courts, swimming pools, shooting ranges, golf courses, ski areas, sports fields, etc. Special use facilities may be found in developed parks, or may stand alone as a single recreational use. A regional trail, a type of special use facility, is defined as a linear park established for the recreational activities of walking, bicycling, horseback riding, and, during the winter months, cross country skiing.

Regional Park and Special Use Facilities Standards

Developing standards and criteria for regional parks and special use facilities is an important element in the initial planning process. Standards for recreation facilities are a subject of much discussion and controversy, especially formulas relating to ratios of land-to-population. Many locales routinely adopt a national standard such as "20 acres of regional recreation area per 1,000 people." This standard should be balanced with a facilities plan that identifies all public lands and recreational opportunities. As part of the planning effort, the location, access, overall distribution, and/or lack of regional facilities must be considered.

Where possible, the national standards, such as "x" acres per "y" population, will be utilized and balanced with a facilities plan. The "facilities" method has been included because it can more accurately reflect the experience and aspirations of Washoe County. Table 37 summarizes the standards for regional parks and special use facilities.

Table 37
**Regional Parks and Special Use Facilities
Regional Standards**

Use	Facility	Standard
Regional Park	Park	20 acres per 1,000 Population
Alpine Ski	Ski Area	4 per Region
Arboretum	Arboretum	1 per Region
Baseball	Field	1 per 6,000 Population
Basketball	Court	1 per 3,000 Population
Biking	Trail	.55 Mile per 1,000 Population
Canine Center	Center	1 per Region
Equestrian Center	Center	1 per 2,500 Horses
Golf	Course	18 Holes per 25,000 Population
Hiking	Trail	.35 Mile per 1,000 Population
Horseback	Trail	.016 Mile per Horse
Ice Skating	Rink	1 per Region
Jogging/Walking	Trail	.16 Mile per 1,000 Population
Motor Boating	Water Area	20 Acres per 1,000 Population
Nordic Ski	Ski Trail	1 Mile per 3,000 Population
Off Highway Driving	OHV Trail	1 Mile per 5,000 Population
Passive Water Sports	Water Area	10 Acres per 1,000 Population
Picnic	Table	6 per 1,000 Population
Snowplay	Area	1 per 75,000 Population
Soccer	Field	1 per 6,000 Population
Softball	Field	1 per 3,000 Population
Swimming	Beach	100 Feet Shore per 1,000 Population
Swimming	Pool	1 per 25,000 Population
Tennis	Court	1 per 2,000 Population
Zoo	Zoo	1 per Region

Sources: Recreation, Park and Open Space Standards and Guidelines, National Recreation and Park Association, 1983; and Washoe County Department of Community Development.

Facility Design Standards

Regional Parks

Regional parks should be designed and developed for diversified use by large numbers of people. Because of its size, the regional park can accommodate facilities that cannot be accommodated in a community park. The regional park should provide urban and suburban residents a pleasing natural environment where they can engage in a variety of recreational activities. These activities should include both passive and active recreation uses. Desirable features of a regional park include large open spaces with natural landscape and landscaping, individual and group picnic and camping areas, nature trails, restrooms, and off street parking. Each regional park may be unique in having its own particular facilities and not necessarily those found in other regional parks. This may include special use facilities and active recreation areas such as boat launching, athletic fields, etc. Because of the large number of activities to be served, regional parks should be a minimum of 100 acres. Regional parks should be located at strategic locations to provide access to the entire population.

Special Use Facilities

Facility design standards for special use facilities are often dictated by the type of use. For example, basketball facilities should conform to standards developed specifically for that sport. Standards for other facilities may be more difficult to quantify. For example, alpine ski area standards rely more on economic forces than on predetermined facility size standards.

Table 38 on the following page includes a list summarizing facility design standards for regional parks and special use facilities. These standards should not be considered as strict building guidelines, rather, they should be considered as a guide in the initial planning of facilities and facility needs.

Regional Trails

In most cases, regional trails should be designed with consideration for all user groups. Therefore, trail design standards discussed in the following text are for multiple use trails, and should be considered as minimum standards. In cases where a trail is designated for a particular use, such as hiking only, these standards may be reduced.

Trail Width Tread area of multiple use trails should be four to ten feet wide or wider where necessary. See Figure 9 on page 79. Passing areas with tread of 10 to 15 feet wide should be provided at frequent intervals.

Trail Construction Trails should be constructed of natural material. Asphalt or other pavement should be avoided, except in urban areas where the trail will have high use. In most cases, it is desirable for the trail to be simple compacted earth. The trail may be treated or surfaced where dust presents a problem, to prevent erosion, or to improve areas that are slick or muddy. The type of material chosen for surfacing (bark, gravel, oil coat, etc.) must be compatible with the environment and must not create severe runoff or erosion problems.

Drainage is the most important consideration in trail construction. Erosion problem areas should be identified in the trail resource evaluation and management planning stage. The method used to drain the trail tread will depend on the quantity and speed of water and the type of soils in the area. The best and simplest drainage method is to build a one percent to three percent slope from the side of the tread outward (see Figure 10 on page 79). Bridges or culverts should be used where trails cross streams, whether permanent or intermittent.

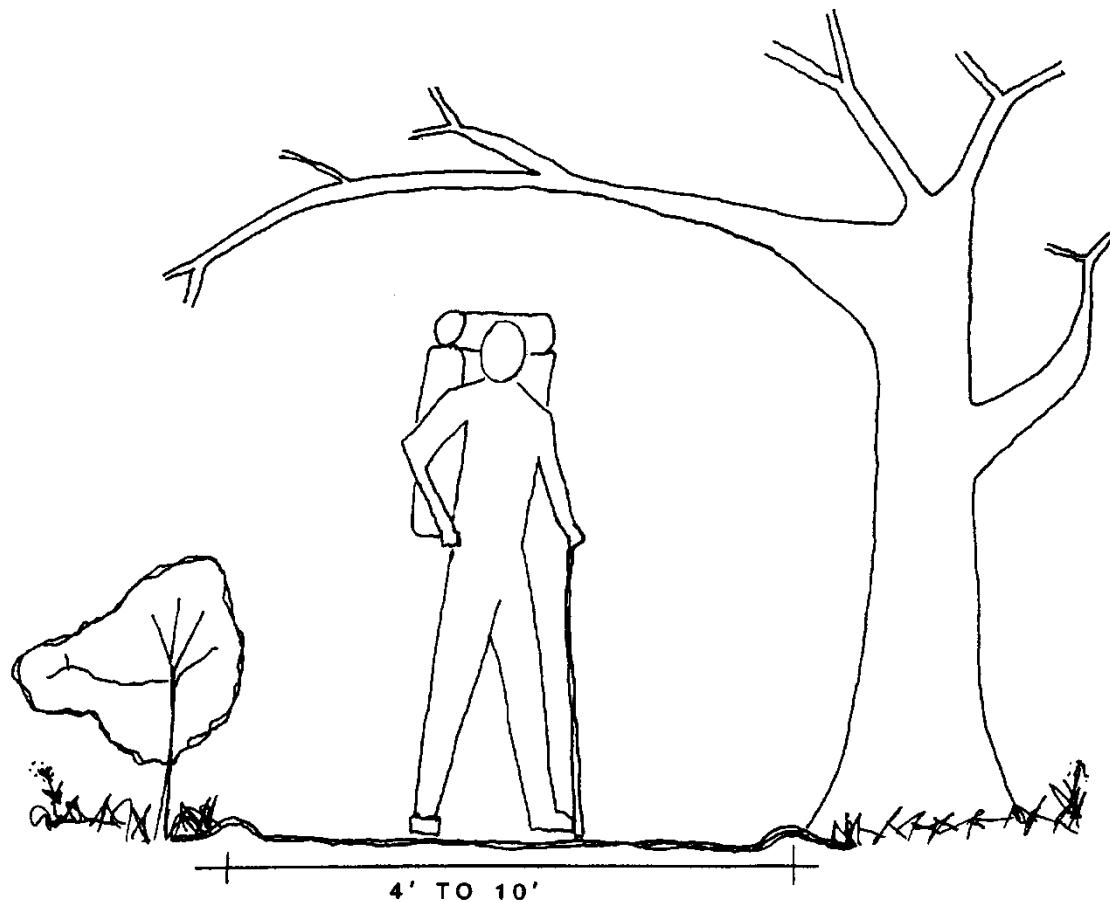
Table 38

Regional Parks and Special Use Facilities
Facility Design Standards

Use	Facility Size	Special Features
Regional Park	100 acres minimum	Contiguous or encompassing natural resources. Provides variety of recreational opportunities.
Alpine Ski	Varies	Terrain for variety of skill levels.
Arboretum	Varies	Adequate parking, handicap access.
Baseball	1.5 acres per field	May be part of baseball/softball/soccer facility.
Basketball	3,000 to 6,000 square feet per court	May be part of multi-court facility.
Canine Center	5 to 10 acres	Should accommodate training and show events including confirmation, obedience, and tracking events. Adequate parking for large events.
Equestrian Center	10 to 20 acres	Provides show/training areas, unloading areas, stalls, etc. Adequate parking for large events.
Golf	200 to 300 acres (18 holes)	6,500 yards average length.
Ice Skating	85 feet X 200 feet rink	May be part of multi-purpose facility.
Motor Boating	1 to 3 acre launch facility	Parking area for trailers.
Nordic Ski	Varies	Groomed trails with access to ungroomed areas.
Picnic	Varies	Natural setting.
Snowplay	5 to 15 acres	Should include both level and moderate slope terrain. Can be used as trailhead for Nordic skiing.
Soccer	1.7 to 2.0 acres per field	May be part of baseball/softball/soccer facility.
Softball	1.5 to 2.0 acres per field	May be part of baseball/softball/soccer facility.
Swimming-Beach	3 to 4 acres per 1 acre beach	Sand bottom with maximum 5 percent slope.
Swimming-Pool	.5 to 2 acres	Should accommodate teaching, recreational, and competitive swimming.
Tennis	7,200 square feet per court	May be part of multi-court facility.
Zoo	100+ acres	Adequate parking, handicap access.

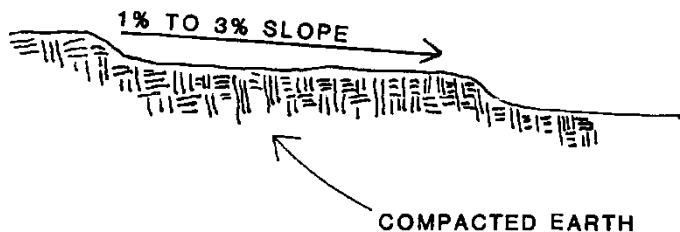
Sources: Recreation, Park and Open Space Standards and Guidelines, National Recreation and Park Association, 1983; and Washoe County Department of Community Development.

Figure 9
Trail Width



Sources: East Bay Regional Park District and Washoe County Department of Community Development.

Figure 10
Material and Drainage



Sources: East Bay Regional Park Division and Washoe County Department of Community Development.

Grade Grades should be kept to a minimum. Grades of eight percent or less are desirable; grades may be as great as 15 percent, but should be avoided or kept as short as possible. Long, gradual switchbacks should be used rather than short, steep switchbacks.

Vegetation Vegetation should be preserved to the extent possible to provide the appropriate aesthetic quality of the trail and to help prevent erosion. Vegetation should be cleared to the appropriate height and width to allow safe passage. A vegetation resource management plan should be included in the trail resource evaluation and management plan.

Fences, Gates and Barriers Fences may be necessary on some trails to prevent trail users from trespassing on adjacent lands, to contain grazing animals, or to protect trail users from hazardous areas. Whenever possible, fences should be materials that blend with the environment.

Gates should be avoided to the extent possible through careful routing, fencing, or the use of stiles. When a gate is deemed necessary, it should be at least four feet wide, and must be self closing. Vehicle gates may be necessary at strategic locations to allow maintenance vehicles onto the trail. Maintenance gates should be appropriately marked and securely locked. As with fences, when it is possible, gates should be made of materials that blend with the environment.

Barriers to prevent motorized vehicles from using a trail should be placed at all access points to the trail. These barriers can be simple, such as placing fallen trees across the trail, which could be stepped over by hikers and riders. Other barriers that may be used include fences, stiles, bollards and certain types of gates. Barbed wire or other wire should be avoided, where possible, as a trail barrier.

Trail Markings Trails should be well marked with signs that are informative and easy to understand. Permanent route maps should be placed at trailheads and should include total mileage. They should show the trail user locations of camping facilities, rest areas, and water supplies. Where two or more trails cross, signs that are easily understood should be placed to mark the different routes. Areas of historical or natural significance along the trail should also be marked.

Related Facilities Trail related facilities should be considered early in the planning process. These facilities include staging areas (trailheads) and camping facilities.

Staging Areas Staging areas should be large enough to accommodate the amount and type of traffic the trail demands. If a trail is used only by small groups of hikers, a staging area to hold a dozen cars may be adequate. If the trail receives heavy equestrian use, a staging area that can accommodate 50 to 100 trucks and trailers may be needed. Staging areas should not duplicate existing facilities; where there is an existing parking area, it should be used. Facilities which should be provided at staging areas include route signs, toilets, water, and garbage cans. Facilities related to equestrian areas may also include stable areas, working arenas, show arenas with grandstands, and cool down areas. Areas for unloading stock trailers should be designed to minimize the need for backing trailers into the unloading area (drive through facility). The staging area may be part of an existing park. Staging areas should be located at the beginning and ending of each trail and may be located along the trail route. Generally, staging areas at 10-mile intervals are adequate. They may be closer if: the trail is used primarily by hikers, the trail is a shorter segment primarily for day use, certain areas of the trail are scenic and receive more use, or any place the use seems to demand additional staging areas. Table 39 outlines recommended staging area standards.

Table 39
Trail Staging Area Standards

Staging Area within Regional Park:

Should accommodate 50 to 100 autos and stock trailers
Holding stalls
Hitching posts
Water available (including water tanks for horses)
Toilets
Garbage containers
Route maps showing total mileage and rest areas along route, where water is available.

Staging Area within Equestrian Facility:

Minimum parking for 50 autos and stock trailers
Water available (including water tanks for horses)
Holding stalls
Hitching racks
Toilets
Garbage cans
Route maps showing total mileage and rest areas along route, where water is available.

Staging Area in Other Access Points (Community Park, Trail Access Point, etc.):

Parking for 12 to 25 autos with stock trailers
Water available
Route maps showing total mileage and rest areas along route, where water is available.

Source: Washoe County Department of Community Development.

Camping Facilities As new camping facilities are developed, trail access should be considered. In general, small backcountry camps within a three to five mile radius of trailheads are most desirable. Equestrian camping facilities with holding corrals should be provided along equestrian trails, and should be separated from other camping areas.

Facility Needs

Regional parks and special use facilities needs for the region to the year 2007 are listed in Table 40 on the following page. Existing facilities for each use are inventoried in the "1990 Total" column. In order to most accurately determine future needs, this existing inventory includes all private facilities (members only), semi-public facilities (privately-owned and/or operated, open to the public), and public facilities (publicly owned and operated). The existing facility inventory was compared to facility standards set forth previously in this section and is based on a year 2007 population of 379,400. The regional parks and special use facilities needs for the region, based on this analysis, are listed in the "2007 Needs" column. If there is a difference between the 1990 total and the 2007 need, that difference represents additional facilities which should be developed between 1990 and 2007.

Table 40
Regional Parks and Special Use Facilities
1990 Total and 2007 Regional Needs

Use	1990 Total	2007 Needs
Regional Park	3 Parks of 100+ Acres	7 Parks of 100+ Acres/Park
Alpine Ski	3 Areas	4 Areas
Arboretum	1 Arboretum	1 Arboretum
Baseball	45 Fields	63 Fields
Basketball	50 Courts	126 Courts
Biking Paths	7.2 Miles	209 Miles
Boat Launch	4 Facilities	5 Facilities
Canine Center	0 Facilities	1 Center
Equestrian Center	6 Centers	6 Centers
Golf	135 Holes	273 Holes
Hiking Trails	43.5 Miles	133 Miles
Horseback Trails	35 Miles	240 Miles
Ice Skating	0 Facilities	1 Arena
Jogging/Walking Path	12.5 Miles	61 Miles
Nordic Ski Trail	10.6 Miles	126 Miles
OHV Driving Trail	0 Facilities	76 Miles
Passive Water Sports	5,128 Acres	3,794 Acres
Picnic Tables	597 Tables	2,276 Tables
Snowplay	2 Areas	5 Areas
Soccer	23 Fields	63 Fields
Softball	45 Fields	126 Fields
Swimming Beach (developed)	9,490 Feet	37,940 Feet
Swimming Pool	10 Pools	15 Pools
Tennis	65 Courts	190 Courts
Zoo	0 Facilities	1 Zoo

Source: Washoe County Department of Community Development

Facility Locations

Regional Parks

Within the Truckee Meadows, a regional park concept that serves the four quadrants of the area should be developed. For planning purposes, the Truckee Meadows should be divided into four areas, with boundaries approximately following Virginia Street north and south and the Truckee River east to west. There should be no less than one regional park of 100 acres or more located within each quadrant. Outside the Truckee Meadows, there should be a minimum of one regional park of 100 acres or more located in the North Valleys area (near Stead), and south in the Galena fan area south of the Mt. Rose Highway.

Special Use Facilities

Recommendations for special use facilities other than trails are not included in this section. In many cases, special use facilities can be accommodated in existing parks or within new, combined facilities.

Rather than propose locations for special use facilities, the local jurisdictions and other recreation providers should use the facility design standards and facility needs sections of this document to determine the appropriate location of special use facilities within their respective jurisdiction.

Regional Trails

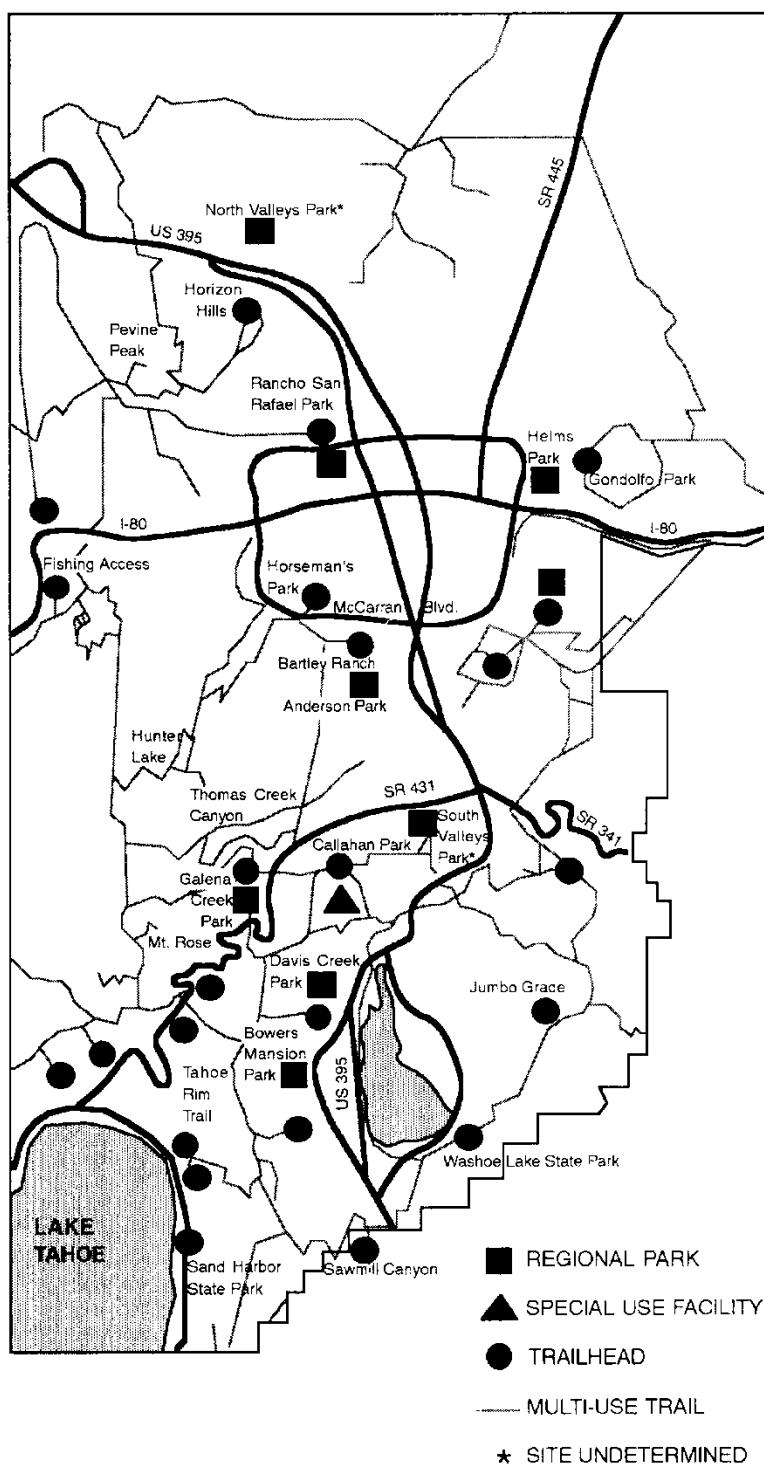
The regional trail concept is intended to provide a trail system that links regional parks and certain special use facilities within Washoe County. This system is shown on the Generalized Trails System map on the following page. The concept includes a trail encircling southern Washoe County that intersects with the Tahoe Rim Trail, an east-west trail through the center of the Truckee Meadows generally following the Truckee River, and trail links providing access to regional parks and special use facilities. The system should comprise approximately 100 miles of regional trail. Additional miles of trail providing access to the regional system should be developed in each of the planning areas. Bike lanes and paths that exist and are planned in urban areas should be connected to the regional system.

Trail Development Procedures The procedure of moving from a concept of a regional trail system as discussed above, to targeting specific locations for designation as a trail, requires a rational process in which the proposed trail is evaluated in terms of compliance with trail designation standards, required right-of-way boundaries, acquisition alternatives and costs, alternate routes, resource evaluation, development timing and costs, and proposed operation and maintenance costs. This process, which should be completed as each segment of the trail is proposed for development, is outlined in the following text.

1. **Trail Designation Standards** The proposed trail should be evaluated to determine that the proposed route complies with the standards for designation as a regional trail. For an area to be suitable for designation as a regional trail, it must possess the following characteristics:
 - a. **Linear Corridor** There must exist a potential linear corridor of regional significance and the trail must accomplish one of the following: provide connection between regional parks and, where possible, connection to parks where overnight camping is available; provide non-motorized access to a regional park from major population areas; and/or provide a link to other regionally significant areas such as National Forest lands.
 - b. **Available Land** A regional trail should have adequate land available at strategic locations (i.e. regional parks) to provide trailheads and compatible trail recreational activities, as well as to provide developed rest areas along the trail route.
2. **Required Right-of-Way Boundaries** Right-of-way boundaries must be determined. The width of the boundary must provide adequate land area to develop the trail according to the trail development standards contained in this document and other standards which may be set forth.

As an extension of a regional park, trails should form linear parks with right-of-ways as wide as possible. Where man-made or natural corridors exist, the entire corridor should be considered for acquisition. In places where a natural corridor does not exist, a right-of-way should be acquired wide enough to provide a buffer between the trail and adjacent development. A width of 25 feet is desirable. There is no maximum width.

Generalized Trails System



Source: Washoe County Parks and Recreation Department.

Many trails will be routed through areas that are already developed. In these areas, where space may be limited, the right-of-way must be wide enough to allow safe passage and to allow room for signs, fencing and landscaping. Therefore, single use trail corridors should have a right-of-way no less than 10 feet wide and multiple-use trail corridors should have a right-of-way no less than 15 feet wide.

3. **Acquisition Alternatives and Costs** Alternatives for acquisition, including costs, should be documented. Local governments may acquire necessary rights-of-way for trail development by purchase of fee title, by dedication of easement, or by agreement (use permit, license, contract). In most cases, agreements will be with public or quasi-public agencies.

Fee simple is the most desirable form of title for acquisition from private owners. Fee ownership allows management and operating flexibility which may not be consistently guaranteed in easements. The property rights may also be acquired by donation of right-of-way, by dedication of right-of-way during development, or by condemnation.

Agreements for trail easement on public or quasi-public land should be negotiated for as long a term as possible and should include terms for renewal. Responsibility for liability and use may be assumed by local governments. Agreements may contain restrictions regarding design, construction, and operation of the trail. These could include installation of gates, fences, landscaping, signs, etc.

4. **Alternative Routes** Alternative routes in the area that provide similar opportunities should be studied. Alternatives should be weighed against the proposed route, with the objective of choosing a preferred route.
5. **Resource Evaluation and Management Plan** A resource evaluation of the proposed trail should be prepared to identify features which have a significant resource value. In addition, a plan for vegetation, wildlife, and water resources management should be completed prior to trail development. This plan should include guidelines to protect significant natural resources which could be adversely affected by trail use.
6. **Development Timing and Costs** A schedule for development, as well as cost estimates of trail development, should be documented. Costs will be determined by the terrain of the proposed trail route, the trail design standards contained in this report, and other standards which may be set forth.
7. **Proposed Operation and Maintenance Costs** An estimate of the yearly operation and maintenance costs for the proposed trail should be documented.

Regional Park and Trail Linkage Concept The regional trail system should be designed in conjunction with regional parks, and should be considered as an extension of the regional park system. The regional trail system should be designed to connect regional parks and open space outside the Truckee Meadows and regional parks and special use facilities within the Truckee Meadows.

Community Parks

Community parks serve the needs of distinct residential areas. The population of the residential area determines the park size. In general, five to eight acres per 1,000 population is the standard used. The equipment and facilities found in these parks vary depending upon the size of the park, its location, and proximity to other recreation areas, and the desires of residents in the area. Washoe County funds the acquisition and construction of parks through both the general fund and a park construction tax. These park construction taxes are collected and applied within designated subdistricts consistent with NRS 278.

Chapter 20.459, Paragraph 2 of the Washoe County Code, directs the Department of Parks and Recreation to monitor population trends and submit recommendations on park district boundaries to the Board of County Commissioners to assure the proper expenditure of park construction tax funds. Park construction tax revenue is derived from an assessment on new residential units built in the unincorporated area of Washoe County. The rate of tax is one percent of the valuation of each building permit issued, or \$1,000 per residential dwelling unit or mobile home lot, whichever is less. NRS 278 mandates this revenue be dedicated to the acquisition and construction of new parks; it cannot be used for maintenance of existing or new parks.

There are currently four park construction tax districts in unincorporated Washoe County. These four districts are further subdivided into 13 subdistricts. Table 41 on the following page shows the existing park planning districts and subdistricts. The current park districts closely relate to the planning area boundaries used in the Master Plan. This permits the Washoe County Department of Parks and Recreation to use population projections for each planning area to determine future neighborhood and community park needs. Additionally, Capital Improvements Program (CIP) projects are based on planning areas and the districts allow future park projects to be placed in an appropriate area within the CIP.

Community Park Standards

The community park standard for the unincorporated area of the County is seven acres per 1,000 population. Planning standards for community parks are shown in Table 42 on page 88. Previous park standards recognized both neighborhood and community parks. The County area plans will continue to use the previous standards until the citizens of each planning area have the opportunity to locate future park sites through a park planning effort. Equipment and facilities typically found in community parks include a mix of playground apparatus, play fields, individual picnic sites, walkways, landscaping, benches or drinking fountains. In addition, community parks may contain other optional facilities to include large group shelters, swimming pools, sports complexes, equestrian arenas, recreation centers or on-site parking. These optional facilities can be funded by the Park Construction Tax and may be included in the community parks.

Community parks are designed to service several neighborhoods in a one to two mile radius in densely populated areas. Many areas of unincorporated Washoe County are characterized by lower density development with isolated pockets of higher density development. The sporadic population dispersion in the unincorporated area necessitates a different approach in determining community park acreage needs and location.

The method that is used to determine park needs for unincorporated Washoe County is the application of the acreage per 1,000 population standard. Table 43 on page 88 shows the estimated 1989 and the projected 2007 population by park district in Washoe County. In order to satisfy park acreage deficiencies in isolated population pockets of the County, acreage is assigned as close to the area of need as possible using the prescribed acreage per population standard.

Table 41
Park Construction Tax Districts and Subdistricts

District 1		
Subdistrict 1A	Mogul Northwest Reno Panther Valley Rancho San Rafael	Truckee Canyon West Urban Reno Verdi Park
Subdistrict 1B	Edgewater Hunter Lake Juniper Creek Trail Lakeside	Mayberry Truckee River Lane West Plumb Lane
Subdistrict 1C	Callahan/Galena Estates Elizabeth Lenz	Shadowridge Thomas Creek
Subdistrict 1D	Galena Creek/Mt. Rose	
District 2		
Subdistrict 2A	Anderson Acres Black Springs West Bordertown/Cold Springs Red Rock Golden Valley	Lemmon Valley Silver Knolls Stead Rancho Haven
Subdistrict 2B	Gerlach Palomino Valley	
Subdistrict 2C	Pyramid Highway Spanish Springs Truckee Canyon	Urban Sparks Wadsworth
Subdistrict 2D	Sun Valley	
District 3		
Subdistrict 3A	Hidden Valley	
Subdistrict 3B	Virginia Foothills	Steamboat Springs/Toll Road
Subdistrict 3C	Bowers Mansion Davis Creek/Franktown New Washoe City Pleasant Valley	Pleasant Valley West Washoe Lake Boat Landing Washoe Valley East
District 4		
Subdistrict 4A	Crystal Bay	
Subdistrict 4B	Incline Village	

Source: Washoe County Parks and Recreation Department.

Table 42
Community Park Planning Standards

Classification	United States	Unincorporated Washoe County
Community Park Acres/1,000 Population	5 - 8	7

Note: A park service radius standard is not used in unincorporated Washoe County due to the variable population density throughout the County.

Sources: National Recreation and Park Association, Recreation, Park and Open Space (Standards and Guidelines), and Washoe County Department of Parks and Recreation.

Table 43
Population Estimates and Projections

Park District	1989	2007
District 1	13,828	42,200
District 2	30,888	58,900
District 3	9,896	30,800
District 4	7,700	12,500

Sources: Washoe County Parks and Recreation Department and Washoe County Department of Community Development.

Facility Needs

A summary of the community park acreage needs through the year 2007 for the four proposed districts is contained in Table 44 on the following page. This table includes projected park acreage needed by the year 2007, existing park acreage, and the difference between existing and projected park acreage needs. The standard of seven acres per 1,000 population for community parks has been used to project park acreage needs. An analysis of the four park districts is discussed below. The analysis of each park district includes a discussion of park implementation.

Park District 1 Analysis

Park District 1 is made up of four subdistricts (1A, 1B, 1C and 1D). Subdistrict 1A covers the Verdi planning area (which includes Mogul) and the unincorporated region of the Northwest Truckee Meadows (located between the Verdi and North Valleys planning areas and the Reno city limits). Subdistrict 1B includes the north half of the Southwest Truckee Meadows planning area. Subdistrict 1C relates to the southern portion of the Southwest Truckee Meadows planning area. Subdistrict 1D encompasses the Forest planning area.

Projections for all of Park District 1 indicate there will be a population of 42,200 people living within the present unincorporated area by the year 2007. This figure represents an overall district increase of 205 percent over the 1989 population estimate of 13,828 people.

Table 44

Summary of Community Park Acreage by Park District

Community Parks	District 1	District 2	District 3	District 4
Projected Acres Needed by 2007	295	316	216	88
Existing Acres	107	147	114	126
Required Acres to Meet 2007 Standard	188	169	102	0

Note: Standards are based on seven acres per 1,000 population.

Sources: Washoe County Department of Community Development and Washoe County Parks and Recreation Department.

A more comprehensive analysis of the community park needs in District 1 is provided in the Washoe County Neighborhood and Community Park Plan prepared by the Washoe County Parks and Recreation Department. The data presented for District 1 indicate community park acreage deficiencies in three subdistricts. An additional 188 acres are needed to bring this district up to standard for community parks by 2007.

Community Parks Implementation It is proposed that three community parks be planned, one each for Subdistricts 1A, 1B and 1D. Approximate locations of the three proposed community parks in this district are the Verdi, Thomas Creek, and Forest areas.

Park District 2 Analysis

Park District 2 is made up of four subdistricts (2A, 2B, 2C and 2D). Subdistrict 2A covers the North Valleys planning area and Rancho Haven. This subdistrict is further divided into eight accounting areas. Subdistrict 2B encompasses both the High Desert, Pyramid and Warm Springs planning areas. Subdistrict 2C covers the Spanish Springs planning area, the unincorporated region of the Northeast Truckee Meadows (located between the Sun Valley and Spanish Springs planning areas and the Sparks city limits), and the Truckee Canyon planning area. Subdistrict 2D, which is the smallest of the four subdistricts, is confined to the Sun Valley planning area.

Population projections for District 2 for the year 2007 indicate there will be 57,900 people residing within the present unincorporated portion of this district. This figure represents an 87 percent increase over the 1989 population estimate of 30,888 people.

A more comprehensive analysis of the community park needs in District 2 is provided in the Washoe County Neighborhood and Community Park Plan. The data indicate acreage deficiencies in all subdistricts except 2B, in remote northern Washoe County. In this district, approximately 169 additional community park acres will be needed by the year 2007.

Community Parks Implementation In order to satisfy the community park needs in this district, three community parks are proposed. A community park is proposed somewhere in the North Valleys planning area (Subdistrict 2A). In Subdistrict 2C, a community park is proposed in the Spanish Springs planning area. The Sun Valley planning area, Subdistrict 2D, also requires a community park to meet the needs in this area.

Park District 3 Analysis

Park District 3 encompasses the Southeast Truckee Meadows and the South Valleys planning areas. The district is divided into three subdistricts (3A, 3B and 3C). Subdistrict 3A covers the Hidden Valley area, Subdistrict 3B takes in the Virginia Foothills/Toll Road areas, and Subdistrict 3C boundaries follow the South Valleys planning area boundary line.

Population projections for Park District 3 indicate there will be 30,800 people living within the present unincorporated region by the year 2007. This figure represents an overall district increase of 211 percent over the 1989 population estimate of 9,896 people.

A more comprehensive analysis of the community park needs in District 3 is provided in the Washoe County Neighborhood and Community Park Plan. The data indicate there is an approximate 102 acre community park deficit in District 3. Community park shortages in this district are most significant in Subdistricts 3A and 3B.

Community Parks Implementation Two large community parks are proposed for Subdistricts 3A and 3B. It is anticipated that the location of these community parks will be close to the proposed Pyramid Link arterial road in Subdistricts 3A and 3B.

Park District 4 Analysis

There are currently two administrative agencies in Park District 4, the Tahoe planning area, which manage a neighborhood and/or community park system. They are the Incline Village General Improvement District and the Washoe County Department of Parks and Recreation.

Normally, as explained in the Washoe County Parks and Recreation Department Mission Statement, the County would not be obligated to provide park and recreation services in the Incline Village area due to the existence of the Incline Village General Improvement District. However, with the adoption of Washoe County Ordinance No. 216, and as the Incline Village area falls under the County's unincorporated area jurisdiction, the Washoe County Department of Parks and Recreation has elected to participate as a local unit of government to provide needed park and recreation services in conjunction with the General Improvement District.

Park District 4 boundaries are coterminous with the Tahoe planning area and the district is subdivided into Subdistricts 4A (Crystal Bay) and 4B (Incline Village). Population projections for Park District 4 indicate there will be 12,500 people living within the present unincorporated region by the year 2007. This figure represents an overall district increase of 62 percent over the 1989 population estimate of 7,700.

An analysis of the community park needs in District 4 indicate that, by the year 2007, there will be a surplus acreage of community parks in District 4. Due to the substantial community park acreage currently managed by the Incline Village General Improvement District, park needs will be met through the year 2007 in District 4. The Crystal Bay area currently has plans for a community park off of Gonowabie Road and an overlook in the upper reaches of Crystal Bay.

Policies and Action Programs

- PSF.8.1 Utilize the regional parks and special use facilities regional standards as a guide for planning the type and amount of facilities needed for Washoe County.
- PSF.8.2 Coordinate regional parks and special use facilities planning with other recreation providers in Washoe County.
 - PSF.8.2.1 The Washoe County Department of Parks and Recreation will work with private, state, and federal agencies to ensure coordination and exchange of current information for recreation planning efforts in Washoe County.
- PSF.8.3 Identify and acquire lands which should be preserved for regional parks, special use facilities, and open space purposes.
 - PSF.8.3.1 Washoe County will utilize the adopted Public Services and Facilities Plan maps from each area plan as a guide to determine where new

- regional parks; special use facilities, including multi-purpose recreational trails; and open space should be located.
- PSF.8.4 Develop a phased regional trail system with access from major population areas and access to regional parks, special use facilities, and public lands.
- PSF.8.4.1 The Washoe County Department of Parks and Recreation shall utilize the adopted Public Services and Facilities Plan maps from each area plan as a guide when planning multi-purpose recreational trails.
- PSF.8.4.2 The Washoe County Department of Parks and Recreation shall utilize the following trail development procedures in planning for multi-purpose recreational trails.
- a. Proposed trails shall be evaluated to determine compliance with standards for designation as a regional trail.
 - b. Right-of-way boundaries that provide adequate land to develop the trail according to the trail development standards shall be determined and targeted for acquisition.
 - c. Alternatives for trail acquisition, including costs, shall be documented.
 - d. Alternative routes shall be studied.
 - e. A resource evaluation shall be completed for the trail route and a resource management plan shall be completed prior to trail development.
 - f. A schedule for trail development and construction cost estimates shall be documented.
 - g. An estimate of yearly operation and maintenance costs shall be documented.
- PSF.8.4.3 The Washoe County Department of Parks and Recreation shall plan to connect existing and planned urban bike lanes and paths with the regional trail system.
- PSF.8.5 Develop a phased bicycle system plan.
- PSF.8.5.1 The Washoe County Department of Parks and Recreation will develop a phased bicycle system plan with transportation and recreation systems defined and coordinated with the appropriate local, regional and state agencies.
- PSF.8.6 Identify and acquire lands which should be preserved for community parks.
- PSF.8.6.1 The adopted Master Plan maps from each area plan shall be used as a guide to determine areas where community parks should be expanded.
- PSF.8.6.2 The Washoe County Park Construction Tax District Boundaries map (adopted June 19, 1990) shall be used to delineate community parks acquisition and development expenditures in each park construction tax district.
- PSF.8.6.3 The Washoe County Department of Parks and Recreation shall prepare parks and recreation facility needs plans for each subdistrict, which in turn relate to County planning areas. These plans shall identify specific community park locations.

- PSF.8.6.4 The Washoe County Department of Parks and Recreation will provide appropriate community park acquisition and development projects as part of the Washoe County Capital Improvements Program process.
- PSF.8.7 Renovate and improve older, existing parks.
- PSF.8.7.1 The Washoe County Department of Parks and Recreation shall monitor the use of older parks and recreation facilities to determine if expansion or retrofit of these facilities can best serve demands.
- PSF.8.8 Require the dedication or reservation of park sites and trail easements during development review when these are considered appropriate by the Washoe County Department of Parks and Recreation, and when consistent with adopted plans for the area.
- PSF.8.9 Encourage individuals and/or private foundations to give donations of land, gifts, and/or cash for construction of public recreation facilities.
- PSF.8.9.1 Washoe County is encouraged to develop ordinances establishing alternative programs such as tax incentives, land banking, transfer of development rights, and holding zones to promote land dedications, gifts and/or donations.
- PSF.8.10 Establish alternative methods for funding community parks, including acquisition, improvement, operation and maintenance.
- PSF.8.10.1 The Washoe County Department of Parks and Recreation will propose and utilize alternative methods such as private park service provision, and other methods that are deemed appropriate for funding the acquisition, development, operation and maintenance of community parks.
- PSF.8.10.2 The Washoe County Department of Parks and Recreation will examine and, if appropriate, propose model legislation to be used for community park financing.

Conclusion

The Public Services and Facilities Element of the Master Plan outlines the physical facilities and service standards appropriate to serve the residents of Washoe County through the year 2007. Public service and facility categories include: water supply management, wastewater management, runoff management, public safety, general government, libraries, schools, and parks and recreation. The policies and action programs establish a general framework to guide the provision and timing of public services and facilities so they are available concurrent with new development.

The standards for service contained in this element should be useful for citizens, elected officials and service agencies to evaluate the strengths and deficiencies of public service programs. This evaluation process can be continually used to establish new construction and maintenance priorities through the Washoe County Capital Improvements Program. Implementation of the policies and action programs of this element will result in the provision of consistent services to all County residents with fair and equitable costs.

Appendix A

Estimated Water Supply and Projected Population

Planning Area	Estimated Water Supply (000s af/yr) ¹	Population Equivalent (000s)	Projected 2007 Population (000s)
Forest	1.3 ²	3.9	5.1
North Valleys	2.6 ³	7.9	26.7
South Valleys	20.6 ⁴	62.4	8.5
Spanish Springs	0.6 ⁵	1.8	9.7
Tahoe	11.0 ⁶	33.3	12.5
Truckee Meadows			
North	80.0 ⁷	242.4	252.1
South	25.7 ⁸	77.9	54.0
Verdi	3.0 ⁹	9.1	5.4
Warm Springs	3.0 ¹⁰	9.1	1.7
Other	N/A ¹¹	N/A	<u>3.7</u>
Total	147.8		379.4

Notes:

Abbreviations are as follows: NA = information not available and af/yr = acre feet per year.

1. The population equivalent of the estimated water supply is based on the assumed rate of use of 293 gallon per day per capita (.33 acre feet per year per capita) from Table 5-1, Regional Water Planning and Advisory Board of Washoe County, Regional Water Resources Plan (1990).
2. Includes evapotranspiration of water applied for agricultural and landscape irrigation in the Galena Creek portion of the Mt. Rose fan from Table 4-4-1, Cooper and Associates, Inc.; CH₂M Hill, Inc.; and CES, Inc.; South Truckee Meadows - Washoe Valley Water and Wastewater Facility and Management Plan (1982).
3. Includes perennial yield figures for Lemmon Valley West, Lemmon Valley East, Cold Springs Valley, and Long Valley from Table 3-1, Regional Water Planning and Advisory Board of Washoe County, Regional Water Resources Plan (1990).
4. Includes evapotranspiration of water applied for pastures and fields and for landscape irrigation in Washoe Valley from Table 4-5-1, evapotranspiration of water applied for agricultural and landscape irrigation in Pleasant Valley from Table 4-6-1, and evapotranspiration of water applied for agricultural and landscape irrigation in Steamboat Valley from Table 4-7-1, Cooper and Associates, Inc.; CH₂M Hill, Inc.; and CES, Inc.; South Truckee Meadows - Washoe Valley Water and Wastewater Facility and Management Plan (1982).
5. Includes natural recharge portion of perennial yield figure for Spanish Springs Valley from Table 3-1, Regional Water Planning and Advisory Board of Washoe County, Regional Water Resource Plan (1990). An additional 5,400 acre feet per year portion of the perennial yield figure is estimated to result from recharge from the Orr Ditch.
6. This is the Nevada-Lake Tahoe allocation permitted in the California-Nevada Interstate Compact.
7. This is the estimated yield of Truckee River water rights and groundwater rights currently available to Westpac Utilities within their service area shown on page IX-5, Westpac Utilities, Water Resources Plan, 1988 - 2008 (1989). The areas included in the North Truckee Meadows, as defined in this table, are all of the incorporated area of Reno and Sparks, and the Sun Valley planning area.
8. Includes evapotranspiration of water applied for agricultural and landscape irrigation and evapotranspiration of water by phreatophytes in the Southeast Truckee Meadows from Table 4-8-1, Cooper and Associates, Inc.; CH₂M Hill, Inc.; and CES, Inc.; South Truckee Meadows - Washoe Valley Water and Wastewater Facility and Management Plan (1982).
9. This figure is the estimated firm yield of water resources in the area from pages 10-15, Washoe County Department of Community Development, Verdi Area Plan (1985).
10. This is the perennial yield figure for Warm Springs Valley from Table 3-1, Regional Water Planning and Advisory Board of Washoe County, Regional Water Resource Plan (1990).
11. The areas included in Other are the High Desert, Pyramid and Truckee Canyon planning areas.

Source: Washoe County Department of Community Development.

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Appendix B

Insurance Services Office Fire Suppression Rating Schedule

Water Supply

Adequacy of Supply Works
Reliability of Source of Supply
Reliability of Pumping Capacity
Reliability of Power Supply
Condition, Arrangement, Operation, and Reliability of System Components
Adequacy of Mains
Reliability of Mains
Installation of Mains
Arrangement of Distribution System
Additional Factors and Conditions Relating to Supply and Distribution
Distribution of Hydrants
Hydrants: Size, Type, and Installation
Hydrants: Inspection and Condition
Miscellaneous Factors and Conditions

Fire Department

Pumpers
Ladder Trucks
Distribution of Companies and Type of Apparatus
Pumper Capacity
Design, Maintenance, and Condition of Apparatus
Number of Officers
Department Manning
Engine and Ladder Company Unit Manning
Master and Special Stream Devices
Equipment for Pumpers and Ladder Trucks
Hose
Condition of Hose
Training
Response to Alarms
Fire Operations
Special Protection
Miscellaneous Factors and Conditions

Fire Service Communications

Communication Center
Communication Center Equipment and Current Supply Boxes
Alarm Conduits and Alarm Facilities Including Current Supply at Fire Stations
Material, Construction, Condition, and Protection of Conduits
Radio
Fire Department Telephone Service
Fire Alarm Operators
Conditions Adversely Affecting Use and Operation of Communication Facilities and the
Handling of Alarms
Credit for Boxes Installed in Residential Districts

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Appendix C

Existing and Projected Employment and Square Footage by Complex

For the analysis of future needs, it is assumed that present staff and service levels were adequate for the 1990 population of 260,029 in Washoe County.¹² Future square footage and general government employment projections, therefore, are based on the population increase between 1990 and 2007.

Based on the year 2007 population projection of 379,400, the total number of persons employed in general government functions at these complexes is projected to be 1,609. This figure assumes current levels of service. Table 45 shows that an estimated 268,522 additional square feet may be needed during the planning period to house these employees. Although many departments are attempting to increase productivity through automation, it is likely that this automation of tasks may help to reduce the need for additional personnel, but not the need for office space.

Table 45
Projected General Government Complex Needs by 2007

Complex	Employees		Building Square Feet	
	Total	Change From 1990	Total	Change From 1990
Administrative	913	287	465,259	146,385
Courthouse	343	108	202,975	63,862
Longley Lane	209	66	79,648	25,060
Mill Street/Kirman	144	45	105,569	33,215
Totals	1,609	506	853,451	268,522

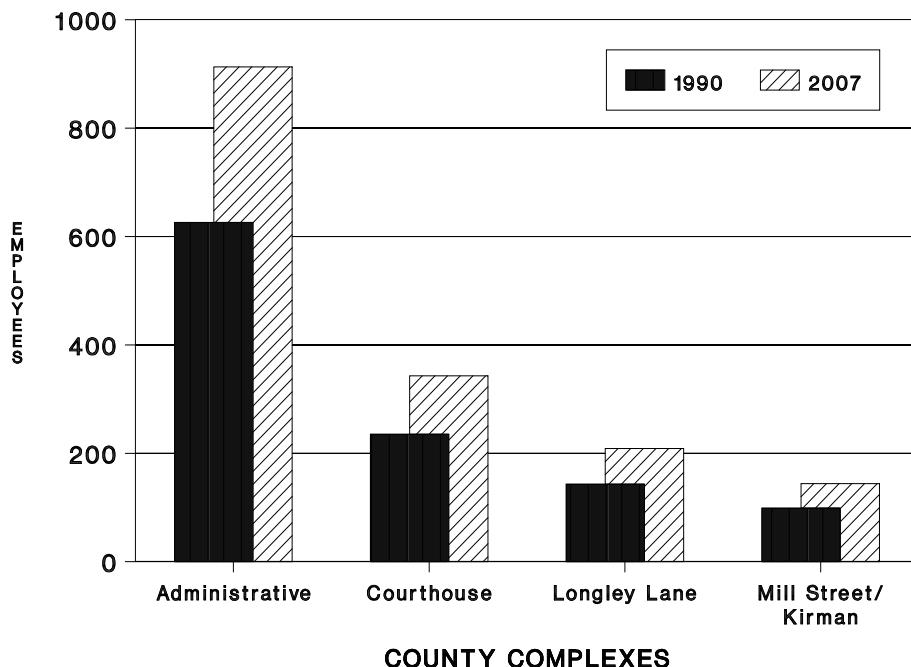
Source: Washoe County Department of Community Development.

Figures 11 and 12 on the following page summarize both the current and projected conditions and needs at the Washoe County complexes.

¹²

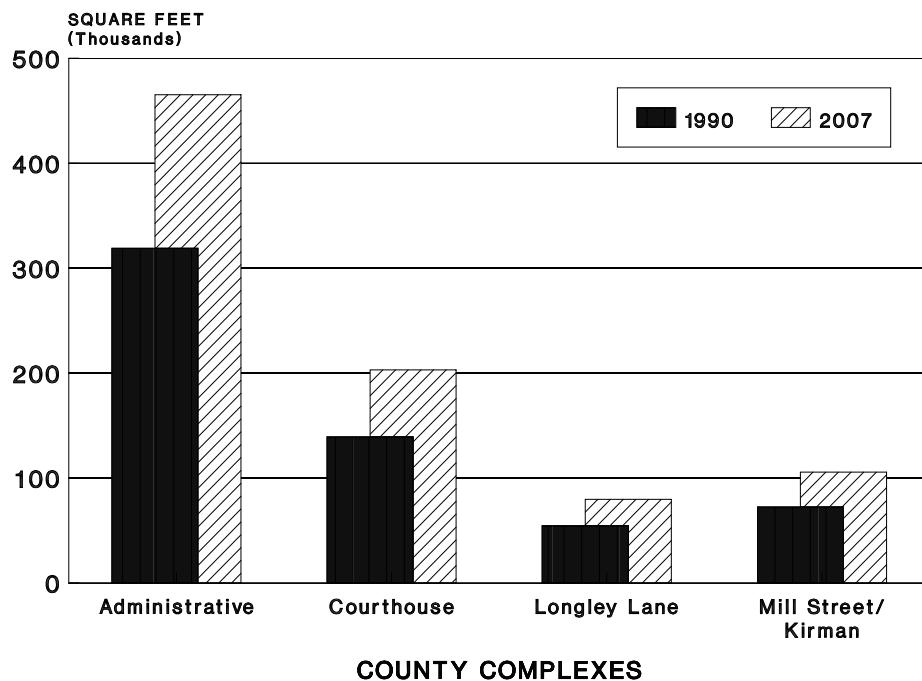
Washoe County Department of Community Development population estimate for July 1, 1990.

Figure 11
Washoe County Complex Employment



Source: Washoe County Department of Community Development.

Figure 12
Washoe County Complex Square Footages



Source: Washoe County Department of Community Development.

Appendix D

Table 46
Washoe County Departments - 1990

Department/Division	Location/Address
Assessor	1001 E. 9th Street
Appraisal Division	
C.A.A.S. Division	
Drafting Division	
Personal Property Division	
Public Service Division	
Real Estate/Records Division	
Clerk	Courthouse Complex
Commissioners	1001 E. 9th Street
Comprehensive Planning Department	1001 E. 9th Street
Conservation and Natural Resources Planning	
Growth Management	
Information Systems	
Strategic Planning and Projects	
Comptroller	1001 E. 9th Street
Constable	Courthouse Complex
Gerlach	Gerlach
Incline	Incline Village
Reno	Reno
Sparks	Sparks
Verdi	Verdi
Wadsworth	Wadsworth
Cooperative Extension Service	1001 E. 9th Street
Coroner	10 Kirman Avenue
District Attorney	
Civil Administrative Division	195 S. Sierra Street
Criminal Administrative Division	Courthouse Complex
Family Support	195 S. Sierra Street
Forfeiture Unit	195 S. Sierra Street
Investigation/Consumer Protection	195 S. Sierra Street
Juvenile Unit	195 S. Sierra Street
Witness Notification Unit	Courthouse Complex
District Courts	Courthouse Complex
Judges	Courthouse Complex
Development Review	1001 E. 9th Street
Administrative Services	
Information/Permits	
Project Review	
Zoning Enforcement	

Table 46
Washoe County Departments - 1990 (continued)

Department/Division	Location/Address
District Health Department	1001 E. 9th Street
Air Quality	777 Sinclair
Community and Clinical Health Services	1001 E. 9th Street
Environmental Health Services	1001 E. 9th Street
Other Services	1001 E. 9th Street
General Services Department	
Animal Control Division	3035 Longley Lane
Buildings and Grounds Division	3021 Longley Lane; 1001 E. 9th Street; 1205 Mill Street; Courthouse Complex
Communications Division	3101 Longley Lane;
Equipment Services Division	3101 Longley Lane; Incline Village; Gerlach
Records Management Division	3025 Longley Lane
Telecommunications Division	3101 Longley Lane
Justice Courts	Courthouse Complex;
Gerlach	625 Desert St., Gerlach
Incline	865 Tahoe Blvd., Incline Village
Reno	201 S. Virginia Street,
Sparks	814 B. Street
Verdi	740 Second St., Verdi
Wadsworth	375 W. Main St., Wadsworth
Juvenile Courts	Courthouse Complex
Juvenile Probation	
Detention Division	1255 Mill Street
Probation Division	1205 Mill Street
Law Library	Courthouse Complex
Library System	
Reno Central	301 S. Center Street
Gerlach	Gerlach
Incline Village Branch	846 Tahoe Blvd., Incline Village
Peavine Branch	1075 N. Hills Blvd.
Senior Citizens' Branch	1155 E. 9th Street
Sierra View Branch	4001 S. Virginia
Sparks Branch	1125 12th St.
Management Information Services	1001 E. 9th Street
Operations Division	
Programming Division	
Manager	1001 E. 9th Street
Emergency Management	
Finance Division	
Personnel	
Parks Department	2601 Plumas Street
Golf Courses/Restaurants	2601 S. Arlington Street
May Foundation	1502 Washington Street
Park Operations Division	1502 Washington Street
Planning Division	2601 Plumas Street

Table 46
Washoe County Departments - 1990 (continued)

Department/Division	Location/Address
Public Administrator	1205 Mill Street
Public Defender	195 S. Sierra Street
Public Works Department	1001 E. 9th Street
Building and Safety Division	1001 E. 9th Street; Incline Village
Engineering Division	1001 E. 9th Street
Road Division	3101 Longley Lane; 180 Del Ora St., Gerlach; 625 Mt. Rose Hwy., Incline Village; Vya
Utility Division	1195-B Corporate Blvd.
Purchasing Department	1001 E. 9th Street
Warehouse	3035 Longley Lane
Fixed Assets Division	1001 E. 9th Street
Recorder	1001 E. 9th Street
Administrative Division	
Real Estate and Maps Division	
Marriage Division	
Registrar of Voters	1001 E. 9th Street
Records and Elections	
Cartography	
Reproduction Department	1001 E. 9th Street
Duplicating Division	
Mail Room Division	
Microfilm Division	
Typeset Division	
Senior Citizen Service Center	Sutro and 9th Streets; Gerlach
Sheriff	
Services Bureau	911 Parr Blvd.
Detention Bureau	911 Parr Blvd.
Operations Bureau	911 Parr Blvd. 625 Desert St., Gerlach 625 Mt. Rose Hwy., Incline Village
Social Services Department	1001 E. 9th Street
Child Care Licensing Division	
Child Protective Services Division	
General Assistance Division	
Health Care Assistance Division	
Treasurer	1001 E. 9th Street
Accounting	
Cashier	
Personal Property	
Special Assessments	
Truckee Meadows Fire Protection District	1001 E. 9th Street

Source: Washoe County Department of Community Development.

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Washoe County Master Plan List of Scheduled Additions

	Addition list of items to be addressed	Master Plan Element	Regional Plan Policies to be Addressed	TMRPA's Initial Thoughts on Timeframe	Assigned Planner
1.	Include language recognizing the use of the most current adopted Washoe County Consensus Forecast	POPULATION	PG 3	Short term	<i>Roger</i>
2.	Include language addressing the use of the Regional Strategy for Housing Affordability	HOUSING	PG 4	Short term	<i>Eric</i>
3.	Include language identifying how Washoe County will be limiting development outside the TMSA to 2% of the cumulative development		RF 1	Long term	
4.	Include language acknowledging the Regional Land Designations and the Priority Hierarchy for Development	LUTE	RF 2	Short term	<i>Chris/Dan</i>
5.	Include language referencing the Regional Land Designations Density Requirements		RF 3	Long term	
6.	Include language describing the limitation of development outside of the TMSA to not allow new divisions of land that would create a parcel less than five acres in size	LUTE	RF 6	Short term	<i>Chris/Dan</i>
7.	Address Rural Development Area (RDA) Establishment and Requirements		RF 7	Long term	
8.	Address Freestanding Communities Requirements		RF 9	Long term	

Washoe County Master Plan List of Scheduled Additions

9.	Include language referencing the List of Facilities and Services Standards	PS&F	PF 1	Short term	Julee/Trevor
10.	Include language recognizing the promotion of facilities and services in line with the priority hierarchy for development	PS&F	PF 2	Short term	Julee/Trevor
11.	Identify that water and wastewater infrastructure will not be extended from the TMSA to the RA, except for the management of reclaimed water as a method to effectively manage reclaimed water from wastewater treatment facilities	PS&F	PF 4	Short term	Julee/Trevor
12.	Include language acknowledging use of the Regional Water Management Plan	PS&F	PF 7, NR 12	Short term	Julee/Trevor
13.	Include language identifying that the location of new schools of at least 300 full-time students is not allowed in the Rural Area		PF 9	Long term	
14.	Address Regional Plan requirements for Regional Utility Corridor and Sites	PS&F	PF 12 - 16	Short term: Include one line indicating Regional Plan Policies are followed Long Term: Address the specific requirements	Julee/Trevor
15.	Demonstrate a commitment to the development of regional renewable energy generation		PF 18	Long term	
16.	Include strategies that reduce urban heat island impacts		NR 10	Long term	